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AGRICULTURAL HISTORY is designed as a medium for the publication of research and documents pertaining to the history of agriculture in all its phases and as a clearing house for information of interest and value to workers in the field. Materials on the history of agriculture in all countries are included, and also materials on institutions, organizations, and sciences which have been factors in agricultural development.

Correspondence concerning contributions and books for review may be sent to Everett E. Edwards, Room 3035, South Building, 13th and B Streets, S.W., Washington, D. C.; correspondence concerning membership dues and business matters, to O. C. Stine, at the same address.

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THE COMMENT OF BRITISH TRAVELERS ON EARLY AMERICAN TERMS RELATING TO AGRICULTURE

ALLEN WALKER READ

One method of approach to determine how agricultural practices in early America differed from those in the mother country is to study the new terms that arose. This "linguistic approach to history" is based on the assumption that the development of a new thing tends to bring in a new word. The Britishers who have visited America since the earliest times have made observations about the language they found; and here we may consider their comments on words pertaining to agriculture, during the period up to the year 1800. In most cases the words can be documented many years earlier from American writing itself; but the terms here presented are those which had enough novelty to attract the attention of the outlander critic.

The idea of the "worm-fence" engaged the attention of Englishmen of the eighteenth century. Hugh Jones, after a visit in Virginia from 1716 to 1721, remarked on "*Wormfences*, which are made of Rails supporting one another very firmly in a particular Manner."¹ In 1796 the traveling astronomer Francis Baily described them: "Hedges are not frequent; but instead of them they place split logs angular-wise on each other, making what they call a 'worm fence', and which is raised about five feet high."² It "looks very slovenly", he thought. John Davis glossed the phrase as "the worm (i.e. *crooked*) fence".³ The term "fence rails" seemed out of the ordinary to Thomas Anburey, who was a lieutenant in the army of General Burgoyne and spent several

¹ *The Present State of Virginia*, 39 (London, 1724, as in Sabin's Reprints, No. 5, New York, 1865). Thornton's *American Glossary* has the word only from 1817.

² *Journal of a Tour in Unsettled Parts of North America in 1796 & 1797*, 110-111 (London, 1856).

³ *Travels of Four Years and a Half in the United States of America During 1798, 1799, 1800, 1801, and 1802*, 343 (London, 1803).

years as a prisoner: the fences, he recorded, "are composed of what is termed *fence rails*, which are made out of trees cut or sawed into lengths of about twelve feet . . . laid so, that they cross each other obliquely at each end, and are laid zig zag to the amount of ten or eleven rails in height. . . ." ⁴ He also gives the Americanism *rider*, recorded in the *Oxford Dictionary* only from 1836: "Above these stakes is placed a rail of double the size of the others, which is termed the rider, which in a manner, locks up the whole, and keeps the fence firm and steady." This zig-zag mode formed the basis of a popular phrase among the New Englanders: "when a man is in liquor, *he is making Virginia fences*." ⁵

Further regarding the administration of the farm, Richard Parkinson noted that the word *patch* applied to small plots of ground. ⁶ "I thought it my duty," he wrote, "on those small pieces (called patches by the Americans) to set an example." ⁷ On these plots was raised truck,—a word that is also an Americanism: "The wife and daughter . . . kept market with *truck*, which," explained Parkinson, "is cabbages, peas, potatoes, &c." ⁸ The Dutch method of measuring land had survived near Albany, New York, according to Alexander Hamilton, a Scottish physician who traveled there in 1744: "We met several Dutchmen on

⁴ Letter of January 20, 1779, in *Travels through the Interior Parts of America*, 2: 187-188 (London, 1789, as reprinted in ed. Boston, 1923).

⁵ *Ibid.*, 2: 188. James Russell Lowell in 1861 asserted that he had heard the expression: *The Bigelow Papers*, 264 (ed. Boston, 1892).

⁶ The word in this sense is old in England, but has acquired enough of a dialectal tinge to be listed in the *English Dialect Dictionary*. Probably the colloquial flavor that survived in America is present in Shakespeare's use of it in *Hamlet*, IV, iv, 18:

We go to gain a little patch of ground
That hath in it no profit but the name.

⁷ *A Tour in America in 1798, 1799, and 1800 . . .*, 2: 409 (London, 1805). Of all travel reports, this is the best source for agricultural matters, despite his hyper-critical attitude, summed in the sentence (2: 489): "Upon the whole, America appears to me to be a most proper place for the use to which it was first appropriated, namely, the reception of convicts." The same sheets were also published in one volume with the following title: *The Experienced Farmer's Tour in America: exhibiting, in a copious and familiar view, The American System of Agriculture and Breeding of Cattle, with its recent improvements* (London, 1805).

⁸ *Ibid.*, 2: 388; Thornton's *Glossary* lists the word from 1784.

the island, who had rented *morgans* of land upon it; they call half an acre of land there a *morgan*."⁹

Other fresh terminology appeared in the practice of "listing", a word which the *Oxford Dictionary* labels as "local U. S.", with the first quotation from George Washington's diaries in 1785. Parkinson felt the novelty when he wrote: "I was therefore two months getting a plough made, therefore I hired the listing (as they call it)."¹⁰ The expression *worn out* as applied to soil attracted the attention of others: William Priest reported that many plantations in Virginia "are what is here called *worn out*"¹¹ and C. W. Janson saw "thousands of acres worn out, as they call it".¹² Parkinson believed that *rust* (for mildew) was an American term, although historical evidence gives it as prevalent in England also from the fourteenth century.¹³ An Irishman recorded this folk belief about it: "Generally, between the first and tenth of July, it has been observed, that the dew, called the honey dew, falling upon the wheat (the morning after being hot and calm) causes the rust or blast."¹⁴ A further pest near Philadelphia, according to John Mair, was garlic: "they have here an ugly weed that does much mischief, and can't be rooted out call'd Garlick. the Milk and even meat tastes of it."¹⁵

The crop which interested travelers most of all was tobacco, and the cultivation of it yielded many new terms. In 1693 John

⁹ *Hamilton's Itinerarium being a Narrative of a Journey from Annapolis, Maryland . . . from May to September, 1744*, 73 (St. Louis, Mo., 1907; ed. Albert Bushnell Hart). The original *morgen* was about two acres.

¹⁰ *Op. cit.*, 1: 165.

¹¹ *Travels in the United States of America; commencing in the Year 1793 and ending in 1797, with the Author's Journals of his two Voyages across the Atlantic*, 18 (London, 1802).

¹² *The Stranger in America: containing Observations made during a long Residence in that country, on the Genius, Manners, and Customs of the People of the United States*, 443 (London, 1807); Janson came to America in 1793.

¹³ "The mildew, or what the Americans call the *rust*", *op. cit.*, 1: 66; "the *rust* (which we call mildew) much prevails", 1: 87; and 2: 323.

¹⁴ *An Historical Review and Directory of North America. . . By a Gentleman Immediately Returned from a Tour of that Continent*, 2: 55 (Cork, 1801; preface signed Dublin, March 25, 1788).

¹⁵ "Journal of John Mair, 1791," *American Historical Review*, 12: 81 (October, 1906).

Clayton, a rector in Yorkshire, told of the verb *to top* and the noun *sucker*:

Now you must know, they top their Tobacco, that is, take away the little top-bud, when the Plant has put forth as many Leaves as they think the Richness of the Ground will bring to a Substance; but generally when it has shot forth four or six Leaves. And when the top-bud is gone, it puts forth no more Leaves, but Side-branches, which they call Suckers, which they are careful ever to take away, that they may not impoverish the Leaves.¹⁶

About a hundred years later J. F. D. Smyth, a captain in the British army during the revolt of the Thirteen Colonies, found the same terms in use: "On the plants that have been topped young sprouts are apt to spring out, which are termed suckers, and are carefully and constantly broken off. . . . This operation is also performed from time to time, and is called *suckering tobacco*."¹⁷ Tobacco-sticks were a new implement brought into requisition. As to the use of them, he explained: the tobacco plants "are placed with the split across a small oak stick an inch and better in diameter and four feet and a half long. . . ; these sticks are then placed on the scaffold, with the tobacco thus suspended in the middle to dry or cure, and are called *tobacco sticks*."¹⁸ "Stripping" was another step in the procedure: "Every night," reported Smyth, "the negroes are sent to the tobacco house to strip, that is, to pull off the leaves from the stalk, and tie them up in hands or bundles."¹⁹ As a final step, wrote another in 1724, "when it is in proper Case, (as they call it) and the Air neither too moist, nor too dry, they *strike* it, or take it down. . . ."²⁰

Smyth in 1784 listed seven varieties of tobacco, namely, *Hudson*, *Frederick*, *Thick joint*, *Shoe-string*, *Thickset*, *Sweet-scented*,

¹⁶ "A Letter . . . giving a farther Account of the *Soil of Virginia*, and Planting of *Tobacco* there, with the Draining of Swamps, &c.," in *Philosophical Transactions*, 17: 982 (December, 1693). This Clayton returned to England in 1686.

¹⁷ *A Tour in the United States of America: containing an Account of the present Situation of that Country*, 2: 133 (London, 1784).

¹⁸ *Ibid.*, 2: 134. They were also used for other purposes, as to beat out buckwheat, "for flails would bruise the grain" (2: 125-126).

¹⁹ *Ibid.*, 2: 136.

²⁰ Hugh Jones, *op. cit.*, 40. He gives a nest of other tobacco words, some of them glossed: *bulk*, *stem*, *prize*, *streight lay*, etc.

and *Oroonoko*.²¹ By another method of classification Jones told of the "Cowpen" and "Nonburning" kinds: "Land when hired is forced to bear Tobacco by penning their Cattle upon it; but *Cowpen Tobacco* tastes strong,²² and that planted in wet marshy Land is called *Nonburning Tobacco*, which smoaks in the Pipe like Leather, unless it be of good Age."²³ As many travelers reported, tobacco furnished the basis of a form of currency. When tobacco was deposited in the warehouse, the planters were given notes, and as Janson recorded, "These certificates are called tobacco-notes; and being payable to bearer, are current payment, and frequently an object of speculation."²⁴ Prices were calculated by such phrases as "I gave so many hogsheads of tobacco."²⁵ Some dealers cheated the government by entering light hogsheads at importation, a practice in the cant of the time called "hickory-puckery", and again by the reverse process of exporting all heavy hogsheads, called "puckery-hickory".²⁶

In the culture of cotton the use of the gin caused comment from several travelers. Thirteen years before Whitney's invention, Anburey described one of its forerunners:

. . . the seeds which are naturally mixed with the cotton are cleaned by means of a machine called a gen [*sic*], which is made of two smooth rollers placed close and parallel to each other in a frame, and move in contrary directions by means of different wheels at the opposite side of the machine. . . .²⁷

²¹ *Op. cit.*, 2: 129.

²² Clayton reported the same practice in 1793, with the only recorded use of the verb to *cowpen*: "After they have cleared a fresh piece of Ground out of the Woods, it will not bear Tobacco past two or three Years, unless Cow-pen'd; for they Manure their Ground by keeping their Cattle, as in the South as you do your Sheep, every Night confining them within Hurdles, which they remove when they have sufficiently dung'd one spot of Ground; but alas! they cannot Improve much thus, besides it produces a strong sort of Tobacco, in which the Smoakers say they can plainly taste the fulsomness of the Dung" (*loc. cit.*, 17: 979).

²³ *Op. cit.*, 39.

²⁴ *Op. cit.*, 340.

²⁵ Letter of February 18, 1779, in Anburey, *op. cit.*, 2: 205. Cf. Smyth, 2: 138.

²⁶ Jones, *op. cit.*, 145.

²⁷ Letter of August 4, 1779, in *op. cit.*, 2: 246. Smyth also in 1784 (2: 71) spoke of "a machine called a gin, which however breaks many of the seeds amongst the cotton, and renders it of less value than what is picked by hand."

Janson, whose observations extended from 1793 to 1807, found that "Private families gin their cotton by hand, which is called *picking*", but that "The most common gin, because of the simplest mechanism, is called the *foot-gin*. It is worked with cranks, by a foot-board, almost resembling a turner's lathe."²⁸ He thus described the kind of cotton grown: "Nankeen cotton is principally grown in the middle and upper country, for family use. It is so called from the wool resembling the colour of Nankeen cloth, which it retains as long as it is worn."²⁹ Andrew Burnaby in 1759 found that the Virginians "make a kind of cotton-cloth, with which they clothe themselves in common, and call after the name of their country."³⁰

Other plants also were suitable for fibrous materials. That widespread American plant "silk-grass" was noted by John Fransham in 1741: "There grows likewise a Kind of Flax, called *Silk-Grass*, of which the Indians make Thread and Strings; and it is good to make Linnen Cloth and Shifts, and would make excellent strong Cables."³¹ As early as 1678 Charles Wooley found among the Indians "a small weed almost like a Willow, which grows in the Wood about three foot high, which is called Indian Hemp, of which they likewise make Ropes and bring them to sell."³²

The culture of indigo yielded other distinctive terms. When indigo was first cut, according to Smyth, it was laid in a large vat "to macerate and digest", and this vessel "is called the *steeper*"; later it was put "into another vat which is called the *beater*".³³ G. Taylor in 1769 observed the varieties of indigo to be found in South Carolina: "First, the wild or native plant of the country . . .; but the quality is not so good as that known by the name

²⁸ *Op. cit.*, 369-370.

²⁹ *Ibid.*, 367.

³⁰ *Travels through the Middle Settlements in North-America in the Years 1759 and 1760*, 12 (London, 1775).

³¹ *The World in Miniature: or, the Entertaining Traveller*, 2: 96 (London, 2nd ed., 1741).

³² *A Two Years Journal in New-York and Part of its Territories in America*, 73-74 (London, 1701).

³³ *Op. cit.*, 2: 60.

of *Guatemala*, or true *Bahama*. . . . But the best kind is the *French*, or *Hispaniola indigo*."³⁴

Among forage crops, maize loomed as most important to the travelers. The word *maize* appeared in English by 1555 and was commented on in the earliest known reference to the borrowing of words from America; in 1619 a London schoolmaster, Alexander Gill, wrote: "Yet also from the Americans we have borrowed several words [*nonnulla mutuamur*], as *maiz* Indian wheat, and *kanoa* a light boat from a tree trunk hollowed out by fire and flint."³⁵ The American colonists, however, have never taken kindly to the word, and in 1693 Clayton spoke of "*Maze*, commonly called *Virginia Wheat*".³⁶ Nor was the word naturalized by 1807, when a New York physician wrote: "It is wonderfully hard to bring a word sometimes into common life. For example, *maize*, is the name of 'Indian corn', but the People will not use it, preferring the word 'Indian' instead of it, and that frequently without any substantive. And how can this be helped?"³⁷ Even today *maize* is wholly a book word in America.

Terms used in the culture of corn, as noted by travelers, were *sucker*, *cobbings*, and *laying-it-by*. According to Parkinson, "They then [after plowing] *sucker* them; that is, take off any young sprouts that have tillered; otherwise the corn will not grow in the ear to its proper length or size, but grow short—what they call 'cobbings'."³⁸ Smyth supplied a gloss: "the last plough-

³⁴ *A Voyage to North America . . . in the Years 1768 and 1769; with an Account of his Tedious Passage*, 223 (Nottingham, 1771).

³⁵ *Logonomia Anglica* (London, 2nd ed., 1621), as reprinted in *Quellen und Forschungen zur Sprach- und Culturgeschichte der germanischen Völker*, 90: 42 (Strassburg, 1903).

³⁶ *Loc. cit.*, 17: 978. William Lee, dealing with the year 1773, mentioned "Indian corn, otherwise called maize": *The True and Interesting Travels of William Lee . . . in 1768 went with a Venture to America, where he travelled through the Back Settlements*, 20 (London, [1808]).

³⁷ Samuel Latham Mitchill, letter of June 19, 1807, printed in E. E. F. Ford, *Notes on the Life of Noah Webster*, 2: 21 (New York, 1912). Corn rather than Indian is now the prevailing form: undoubtedly when the average American student reads of the troubles over the "Corn Laws" in early Victorian England, he visualizes cribs full of maize.

³⁸ *Op. cit.*, 2: 327-328.

ing of the Indian corn (called *laying-it-by*)".³⁹ The corn was measured, he said, "by what is called the barrel there, which contains just five bushels."⁴⁰

According to a consensus of opinion, the natural pasturage of the country was very poor. Bernard Romans reported for Florida that "the most natural grass on this soil is of a very harsh nature, and the cattle not at all fond of it, it is known by the name of wire grass."⁴¹ Weld reported concerning Maryland: "This sedge, as it is called, is a sort of coarse grass, so hard that cattle will not eat it, which springs up spontaneously, in this part of the country, on the ground that has been left waste; it commonly grows about two feet high."⁴² The report of John Mitchell, who lived in Virginia from 1700 to 1747, was even more disparaging: "This their common pasture grass is so rank, hard and dry, that they make their brooms of it, as they do here with heath or birchen rods, and know it by no other name in most of the colonies but Broom-straw."⁴³ Nicholas Cresswell recorded in his diary for May 19, 1775, in Ohio, the seeing of "Wild Clover, what they here call wild Oats and Wild Rye in such plenty it might be mown and would turn out a good crop."⁴⁴ It may have been the same species that attracted Mitchell's attention:

The only sort of Corn proper for the northern parts of *America*, is one that grows naturally in the soil and climate, well known to many by the name of *wild Oats*. It is so called, because it grows like an oat, but the grain is to all intents and purposes a species of rice.⁴⁵

³⁹ *Op. cit.*, 2: 123; and "chopping round the stalks of the corn in *laying-it-by*" (2: 124).

⁴⁰ *Ibid.*, 1: 292. Wheat was measured in New York, Wooley found in 1678, by the old Dutch measure the "skipple": "a Skipple being three parts of a Bushel" (*op. cit.*, 33).

⁴¹ *A Concise Natural History of East and West Florida*, 16 (New York, 1776). The *Oxford Dictionary* reports the word only from 1793.

⁴² *Travels through the States of North America . . . during the years 1795, 1796, and 1797*, 79, note (London, 1799).

⁴³ *The Present State of Great Britain and North America, with regard to Agriculture, Population, Trade, and Manufactures, impartially considered*, 154 (London, 1767). In his acrimonious spirit he commented on American wheat: "The Portuguese who buy the wheat of the northern colonies call it *Palillas*, *chopt* straw; by which they mean a small sort of wheat . . ." (*ibid.*, 157).

⁴⁴ *The Journal of Nicholas Cresswell, 1774-1777*, 76 (New York, 1924).

⁴⁵ *Op. cit.*, 71, note.

The Americans at least knew of something better, he admitted: "A blade of *English Grass*, as they call it, that is, any sort that is *green*, is as great a rarity there, as the most curious of their plants are here."⁴⁶ In Anburey's statement is recorded another term: "some [acres] will produce two [ton of hay], but that is what is termed timothy hay, which is rank and sour."⁴⁷ Beans furnished a supplementary forage crop. Mitchell recalled thirty different kinds of beans that grew in America, one of them with this interesting name: "Another sort, known by the name of the Bushel-bean, from its producing a bushel of beans on one vine, is perhaps the most substantial food for hogs and horses, of anything that grows, and the cheapest."⁴⁸ The evangelist John Wesley in his journal for December, 1737, listed among the crops that grew well in Georgia: "sewee-beans, about the size of our scarlet, but to be shelled and eaten like Windsor beans."⁴⁹

Apart from his cultivated crops, the farmer had aid from other sources. The term *mast* referred to one sort, as Cresswell explained: "When there is a plentiful Mast (what they call Mast are acorns, Walnuts, Chestnuts, and all wild fruits) the Hogs will get fat in the woods with little, or no corn."⁵⁰ Smyth too spoke of "acorns in the woods, which are always called *Mast* in America."⁵¹ Certain wild berries had novel names, such as the "fox-grape" told of by Francis Moore, who visited Georgia, in March, 1735/36:

There are also abundance of Vines grow wild in the Woods; one called the Fox-Grape, from a kind of Muscadine Taste, is as large and round as a Duke-Cherry, and fleshy like it, but the Stones are like the Grape. This kind of Grape does rarely grow in Clusters, but singly like Cherries.⁵²

Others commented on the name *huckleberry*: Cresswell in Virginia in 1775 "Rode up the Laurel Mountain with some Young Girls

⁴⁶ *Ibid.*, 152-153.

⁴⁷ Letter of May 20, 1778, in *op. cit.*, 2: 128.

⁴⁸ *Op. cit.*, 27, note.

⁴⁹ *The Journal of the Rev. John Wesley, A. M.*, 1: 402 (London, [1909]; ed. Nehemiah Curnock).

⁵⁰ Entry of April 13, 1777, in *op. cit.*, 199.

⁵¹ *Op. cit.*, 1: 292. Despite these writers, the word *mast* in this sense appears to be in good English use, being found in Chaucer, Shakespeare, Dryden, Swift, Lamb, etc.

⁵² *A Voyage to Georgia. Begun in the Year 1735*, 54-55 (London, 1744).

to get Huckleberries. They are the same as our Bilberries, only grow in clusters;"⁵³ and Robert Wilson in Georgia about 1780 noted "fruit . . . such as wild huckleberries, and swamp huckleberries (so called in that country)—not unlike the sloes and bulleys in England."⁵⁴

Certain forest products were of further help to the American settlers. The Americanism *lightwood* was noted by Hugh Jones: "they gather up the *Lightwood*, or Knots of the old Trees, which will not decay" and from it they extracted the tar.⁵⁵ "Maple sugar" also attracted attention, but according to Taylor it was in 1768 called "Indian sugar".⁵⁶ Baily in 1797 recorded two other terms used in making this article: "When they [sugar maples] are found in this manner [in a body of six or seven acres], they are called sugar groves, which is a term applied to any place of this kind where the process of making sugar from the trees is carried on"; and "any incision made in this way to obtain the sap, is called *tapping* the tree."⁵⁷

No one can accuse the British travelers of neglecting the subject of agriculture. An Irishman summarized his journey: "After all my travels through America, I saw nothing worth attention, except raising tobacco and India corn."⁵⁸ Their comments even by 1800, prior to the great wave of American word-coinage that marked the rapid expansion to the West, show that agriculture had yielded a goodly stock of Americanisms. Only those that were outstanding enough to attract their attention have been dealt with here. The linguistic approach alone demonstrates that the practice of agriculture in America in the eighteenth cen-

⁵³ Entry of July 26, 1775, *op. cit.*, 98. A month later in the Indian country west of Virginia, he stopped to get his supper "on some Dewberries (a small berry something like a Gooseberry)" (August 26, 1775, in *ibid.*, 104). The name *dewberry* is not an Americanism, but in America it is applied to a different plant from that in England.

⁵⁴ *The Travels of that Well-known Pedestrian, Robert Wilson, of March, in the Isle of Ely*, 99 (London, 1807).

⁵⁵ *Op. cit.*, 57.

⁵⁶ *Op. cit.*, 80-81, where the process of making it is described.

⁵⁷ *Op. cit.*, 178.

⁵⁸ "A Twelve-Month's Tour through America," in *Miscellany of Knowledge*, 293 (London, 2nd ed., 1792).

tury was confronted with distinctive problems and that the American people were adjusting themselves to the new conditions.⁵⁹

⁵⁹ The attention of readers of this periodical should be called to "The Historical Dictionary of American English," which is being compiled at the University of Chicago. As a coöperative national undertaking, it is designed to give copious illustrative quotations for words that have to do with American life. Under such words as *buckwheat*, *tedder*, *wind-mill*, *bronco*, *weevil*, and the like, will be found quotations from which the history of the thing named can be constructed. Agricultural terms have such an importance that the help of further readers is solicited. Anyone who would care to read in agricultural works and copy out quotation slips for the important words found there should write to the editor (Sir William Craigie, University of Chicago, Chicago, Illinois) for directions and further information. A list of available works may be sent in, so that the reader can be informed whether or not they have already been dealt with.

HISTORY AND SIGNIFICANCE OF THE FOREIGN PLANT
INTRODUCTION WORK OF THE UNITED STATES
DEPARTMENT OF AGRICULTURE¹

KNOWLES A. RYERSON

Plant introduction is an old activity of man. From the dawn of history he has brought back new useful plants from the strange lands where he hunted and fought, and in turn carried with him when he migrated to new lands the plants which he had used at home.

Plant introduction is also an ancient activity of governments and officials connected with them. Old recorded accounts tell of these efforts. Probably the oldest known record is that mentioned by Charles Leonard Woolley in his interesting account of the Sumerians,² telling of an inscription found in Mesopotamia which relates that Sargon crossed over the Taurus Mountains into the heart of Asia Minor and was careful to bring back specimens of trees, vines, figs, and roses for acclimatization in his own land. This was about 2500 B.C. The first recorded account so far known of an expedition organized for collecting plants is that of Queen Hatshepsut of Egypt who, about 1500 B.C., sent ships to the Land of Punt to get the incense tree and which records and pictures the return of this successful fleet and its cargo of trees on a temple at Thebes. In the village of Fukushoji, in the province of Kii, there is a monument to one Tajima Mori who went to China eighteen hundred years ago on imperial order to study and bring back citrus fruits to Japan. He spent nine years on this project and the monument records, "How magnificent is the result of Taji's work." In more recent times history repeatedly records the efforts of governments everywhere to introduce new

¹ A paper presented at the annual meeting of the Agricultural History Society, Washington, D. C., April 18, 1933.

² *The Sumerians*, 79 (Oxford, Clarendon Press, 1928).

trees and plants to enrich and diversify their agriculture and to beautify their gardens.

The above-mentioned examples serve merely to mark on the calendar isolated illustrations of an activity which has played a vital part in the history of civilization and settlement. Dr. David Fairchild has well pointed out that "the rapid development of any new country is due to the discovery of soil and climatic conditions suited to the growth of introduced food plants, and seldom to the development of an endemic species. . . . So thoroughly has this fact been recognized by all colonizing nations that they have established botanic gardens in their new colonies, one important function of which is to secure and distribute exotic economic plants throughout the colony."³ A few exotic species—cinchona from Peru, coffee from Arabia and Liberia, tea from Assam and Siam—have made Java and Ceylon rich beyond measure; rubber from Brazil has brought Borneo, Malaya, Java and other East Indian regions undreamed-of wealth; in our own country the apple, pear, peach, citrus fruits, and the navel orange from Brazil, the vinifera grape of the Mediterranean region and other introduced crops have made possible the agricultural wealth of California, while other introductions have similarly benefited whole sections of the United States.

INTRODUCTION ACTIVITIES IMPORTANT IN COLONIAL PERIOD

It is not surprising then that in the settlement of the colonies, which were later to form the United States, the introduction of plants was from the first an important activity. On the eastern coast colonists found many wild fruits on arrival and such native crops as corn and tobacco, but the settlements on the Pacific coast were dependent entirely upon the crops they brought with them. In his illuminating account of early developments in Virginia, Dr. William A. Taylor has pointed out that within two weeks after landing in 1607, the Jamestown colonists cleared land for wheat and reserved a place for a garden, in which were planted

³ "Systematic Plant Introduction, Its Purposes and Methods," U. S. Department of Agriculture, Division of Forestry, *Bulletin* 21, p. 7-8 (Washington, 1898).

seeds of fruits and vegetables not indigenous to their new home.⁴ These included melons, potatoes, pineapples, and oranges, some of which were probably picked up in Dominica or other West Indian islands enroute. "In 1622, . . . the Virginia Company made provision for dispatching to Jamestown a pinnace containing not only wheat and barley, but also garden seeds and scions of fruit trees. What success attended this effort is not recorded, but it is not unlikely that the apples, pears, peaches, apricots, vines, figs, and other fruits which Smith stated in 1629 'some have planted that prospered exceedingly' resulted from it." Of the Mediterranean fruits attempted only the fig was successful. He mentioned that "one Mistress Pearce, of Jamestown, an honest, industrious woman, had gathered from her garden in one year 'neere an hundred bushels of excellent figges.'" Similarly New England records show early introductions of fruits and vegetables from Europe and other regions.

As the colonies developed, the leaders supplemented their personal interest with official support in the form of small sums appropriated from time to time by the various colonial assemblies to encourage cultivation of plants new to the country, such as hops in Virginia, mulberry trees for silk in Georgia, and vineyards for a wine industry. In 1743 the British Parliament granted \$600,000 to promote the cultivation of indigo and other crops in the American colonies. As agent for the colony of Pennsylvania in England, Benjamin Franklin collected and sent back seeds and cuttings.

EARLY FEDERAL PERIOD

Following the Revolution, the new country was apparently too occupied with its many other problems to give much official attention to agriculture, in spite of the intense personal interest of such men as Franklin and Jefferson and the active and urgent recommendations of Washington and later of Madison. Jefferson, while Minister to France in 1784-89, took advantage of the

⁴ "The Fruit Industry, and Substitution of Domestic for Foreign-grown Fruits," U. S. Department of Agriculture, *Yearbook*, 1897, p. 308. Also issued as U. S. Department of Agriculture, Division of Pomology, *Bulletin* 7 (Washington, 1898).

opportunity to send back numerous seeds of grasses, rice, and pepper, and cuttings of olives and other trees. These he directed to various correspondents and especially to the Society for the Improvement of Agriculture at Charleston, South Carolina. The War of 1812 increased the country's problems, and agriculture continued to be neglected.

In 1817, however, official interest was again indicated by a direct effort looking toward the introduction of new crops, when a Congressional grant was made to a group of French colonists in Alabama on the condition that they would introduce and establish the olive and the vine.

A circular of the Secretary of the Treasury, William H. Crawford, dated March 26, 1819, is the first official record of Federal governmental activity in the interests of foreign plant introduction. It pointed out the importance of useful plants and new inventions to new countries and requested the American consuls to send back useful plants to the collectors of the various ports of the United States for distribution. No expenses could be authorized at the time in connection with such shipments. In quoting this circular Elkanah Watson pronounced it "the first practical national measure, in promotion of agriculture. It may be considered as an entering wedge; as it will not recede, it must progress."⁵

The records do not show to what extent this first circular stimulated the sending in of plants by consuls. On September 6, 1827, at the direct instigation of President John Quincy Adams, another circular was sent to all consuls explaining the importance of plant introduction, directing that seeds and plants be sent to the United States, listing the type of information desired about each, and accompanied the circular with a five-page supplement with complete instructions on how to pack and ship plant material under conditions on board sailing vessels, including protection from salt spray "especially when the waves have white,

⁵ Elkanah Watson, *History of the Rise, Progress, and Existing Condition of the Western Canals in the State of New York. . . together with the Rise, Progress, and Existing State of Modern Agricultural Societies, on the Berkshire System. . .*, 207 (Albany, D. Steele, 1820).

frothy curls upon them." The Secretary of the Navy ordered all naval commanders to lend every assistance at any port from which consuls wished to ship plants.

On at least one consul, Dr. Henry Perrine in Campeche, Mexico, the order had a stimulating effect, and for ten years he sent in economic plants, urging expansion of the enterprise. He finally returned to the United States and secured a grant of land in southern Florida for the expressed purpose of establishing some of the tropical and subtropical crops. Among others, he brought in the mango, the sisal, and the cinchona. His efforts were cut short in 1840 when he was murdered by Seminole Indians. By strange coincidence, the government plant introduction garden, now located at Coconut Grove, Florida, adjoins the original Perrine Grant where plant introduction was first attempted on a systematic basis.

INFLUENCE OF HENRY L. ELLSWORTH

In 1836 the Patent Office of the State Department was reorganized and Henry L. Ellsworth was appointed Commissioner. It would be difficult to estimate the influence which this unique personality had on agriculture in general and plant introduction in particular. A man of broad interests in many fields, he had an unusually keen interest in agriculture, especially plants, and he immediately began efforts to provide a central agency for distributing new seeds, plants, and information. His efforts at first aroused little interest or support; in his annual report of 1837 he remarked that "Husbandry seems to be viewed as a natural blessing, that needs no aid from legislation,"⁶—a condition farmer and legislator today wish were only true! In the same report he pointed out the then unorganized situation in regard to the distribution of both seeds and information:

"The Patent Office is crowded with men of enterprise, who, when they bring the models of their improvements in such implements, are eager to communicate a knowledge of every other kind of improvement in agriculture, and especially new and valuable varieties of seeds and plants. Hence, the undersigned has been led to receive and distribute, during the last two years, many articles of this kind

⁶ United States Commissioner of Patents, *Annual Report*, 1837, p. 5.

which have been committed to his care; and experience has induced him to believe that there is no spot in the Union so favorable to this object as the seat of the Government.

"The great desideratum at this present time seems to be, that some place shall be designated and known as the depository of all articles of this kind, and from whence they may be dispensed to every part of the United States."

And again in the annual report for 1838:

"Not being authorized to incur expense, the Commissioner has ventured to invite the transmission of seeds, gratuitously, from distant parts, trusting that Congress will, at least, authorize their distribution. . . .

"I cannot omit to notice that the efforts of the Government to obtain, through her Navy, foreign seeds and plants, have failed, from the inability of collectors in the different ports to distribute the objects transmitted. Nor will the patriotic designs of the nation be accomplished, until some depot shall be established to receive, classify, and disseminate the generous contributions daily offered."

Through his insistence he secured in 1839 an appropriation of \$1,000 for the collection and introduction of seeds and plants and agricultural information. This was the first appropriation ever made for agriculture by an American Congress; here was the beginning of the United States Department of Agriculture.

The annual reports of the Patent Commissioner during Ellsworth's period of service were an innovation. President John Quincy Adams said that the Commissioner was one man who could make a government document interesting, and on occasion he became sufficiently absorbed in them that he almost forgot his appointments. Agricultural data and information from far and wide were collected and published in the reports, which finally reached a size of over five hundred pages, most of which dealt with agriculture rather than patents. Congress ordered an additional 25,000 copies of one of them because of popular interest.

In August, 1838, the Navy's exploration expedition sailed to the South Seas under the command of Captain Charles Wilkes, returning three years later with many interesting and strange plants. These were housed in greenhouses adjoining the Patent Office and were finally moved to a new greenhouse on the Mall, forming the nucleus of the so-called Botanic Garden which still

⁷ *Ibid.*, 1838, p. 57-59.

exists at the foot of Capitol Hill. This old greenhouse, still standing in 1933, is soon to be torn down.

In his report of 1843 Ellsworth mentioned 12,000 packets of seeds being distributed, and recommended a more systematic effort to obtain suitable seeds through the instrumentality of our diplomatic corps as being desirable. He left his position in 1845 with a government policy of plant introduction firmly established, and supported, if very meagerly, by government funds specifically for this purpose.

In 1847 Ellsworth's successor mentions a Frenchman by the name of Vattemare as the founder of the international exchange system,⁸ and as the donor of most of the seeds distributed in 1848. The international exchange system was destined to become one of the most important methods of plant introduction. In 1849 the Patent Office was transferred from the State Department to the Department of the Interior. This year marked the end of the combined patent and agricultural report. From this time on the report on agriculture was separate.

PRE-CIVIL WAR PERIOD

The period from 1850 to the outbreak of the Civil War was marked by events, national and international, which had a direct bearing on plant introduction. During this time continental United States, as we know it today, was rounded out by the annexation of Texas, the Gadsden Purchase and the territory now forming Nevada, Utah, Arizona, California and parts of western Colorado and New Mexico, giving an immense new area with all its future problems of crop adaptation as settlement progressed. In the foreign field the outstanding event was the opening of Japan to the world, through Admiral Perry's visit, which resulted in the introduction of many new plants from this hitherto inaccessible country.

The reports of the Commissioner of Agriculture covering this period record steady expansion of plant introduction activities. By 1860 the system of international exchange had been fairly well perfected and embraced all the principal countries. In 1851

⁸ *Ibid.*, 1847, p. 14.

the Commander of the East Indian Squadron of the U. S. Navy sent in several cases of sugarcane cuttings; these were distributed to planters in Louisiana and neighboring States. In 1854 a report on seeds and plants which had been introduced was included in the Commissioner's report.

In 1854-55 the first governmental agricultural explorer, D. J. Browne, collected plants and seeds in Europe, and on returning was investigated by a committee of the House of Representatives, the charges being without foundation. The Commissioner's report for 1854 shows that the introduction of new seeds had encouraged the opening of two hundred new seed stores in the interior, and that the demand for seeds had doubled in four years.

In 1856 the barque *Release* with her crew was placed at the disposition of the seed office, and was sent to South America to find, if possible, hardier varieties of sugar cane and other plants for the South; she returned with a quantity of material which was distributed at New Orleans.

In 1857 a special agent was sent over to Japan to collect tea seeds and to study the culture of this crop. This was the beginning of a long-continued effort to establish the tea industry in this country. After thirty years' trial it was finally given up, only to be revived later for a short time.

In 1859 fifty tung-oil trees from Japan were received, but apparently none survived to bearing age. This shipment antedated by almost fifty years the introduction by the Department of Agriculture which resulted in the commercial establishment of these oil-producing trees in the South. During this year shipments also arrived from Palestine and included sesame seeds, carob and pistache trees.

The crops receiving special attention during this period, in addition to tea, were cereals, vegetables, cinchona, the date palm, olive, cork oak, camphor, cotton, and alfalfa, while among the ornamental trees the deodar from India was distributed widely.

CIVIL WAR YEARS

The outbreak of the Civil War interrupted but did not stop plant introduction activities. Two far-reaching events occurred

in 1862. First, the Department of Agriculture was organized and established as a separate unit of the Government. Here was the culmination of the hopes and efforts of Washington and others of his time and their successors down through three quarters of a century. The activities growing out of the meager \$1,000 appropriation made by Congress in 1839 for the collection and introduction of new and rare plants and for the collection of agricultural information had in less than forty years demonstrated their fundamental importance to American rural and national life, and provision was made for a new Department to centralize and coördinate the various activities into a unified program with a Commissioner of Agriculture. One of the seven important duties of the new Department, as listed in its first annual report, was the collection, testing and distribution of seeds and plants.

The second significant event was the establishment of the land-grant colleges. In so far as plant introduction was concerned, these new institutions provided important centers in each State for testing under more adequate conditions and observations the many new introductions being made. In the years to come they, together with the experiment stations, were to serve as centers for plant breeding and selection, and by their activities in these directions modified the trend and policy of plant introduction.

During the war two agents were sent out, one to China to collect more types of Chinese sorghum. This crop, which had been introduced by the Government in 1835, resulted in an industry which had already reached an output of forty million gallons of sirup annually by the war period. The second agent was sent to Europe to study crops and collect seeds. These agents were sent out in 1864. It was already recognized that when the war closed the South would be faced with a great economic change, and that the introduction of new crops would probably play a vital part. A start was made before the war ended with a view toward constructive contributions to the new economic order of the South.

POST-WAR PERIOD

The years immediately following the Civil War saw the initiation of changes in the agriculture of the South as it adjusted itself

to new labor conditions. West of the Mississippi, extending to the Pacific, a surging tide of settlers moved into the great open and empty areas, breaking them to the plow. Agricultural colleges in each State were developing, to be followed later by the State experiment stations. The national Department of Agriculture, created during the war, developed, expanded and organized its activities to meet the demands which the rapidly changing and developing nation made upon it. Each of these movements influenced plant introduction and in turn were influenced by introduction. New crops for new lands of the West and possible new crops for the cotton lands of the South were desired. The newly created agricultural colleges provided local centers of experimentation and trials of a permanent nature. The Department of Agriculture pioneered and led the way.

As the Department grew and extended its organization to meet more effectively the agricultural problems of the country, changes in the policy of seed distribution began to appear. The seed fund had reached very substantial proportions and already there was ample evidence of trouble and dissatisfaction over methods and policies which continued until the abolition of Congressional seed distribution in 1923. The complete history of government seed distribution is a story in itself and not within the scope of this paper. Nevertheless, out of it and in a large measure financed by its funds, there grew other and better, planned introduction activities that have become permanent.

INFLUENCE OF WILLIAM SAUNDERS

Just as Henry L. Ellsworth exerted powerful influences in the initiation of plant introduction in the decade between 1836 and 1845, so William Saunders, coming to the Department in 1867, must be credited with profoundly affecting the policies and activities of the adolescent Department, especially in the field of horticulture. In his position of Superintendent of Gardens and Grounds, he handled the propagation and distribution of new trees and shrubs. During his years of service thousands of plants were propagated and distributed for testing in all parts of the country. His keen interest and wide correspondence were re-

sponsible for many new plant immigrants. He will probably be best known for his introduction of the navel orange from Brazil, now known as the Washington Navel, orchards of which clothe hillsides and valleys in southern California to the extent of a hundred thousand acres. During the period long and comprehensive efforts were continued to establish the tea industry in this country. In one year alone—1878—there were 45,750 plants distributed. The annual report for 1887 indicated that little hope was held for the establishment of this crop on an economic basis and intensive efforts practically ceased. Fifteen years later extensive tests were again conducted for several years, especially through the efforts and interest of Dr. Charles U. Shepard of South Carolina, but economic factors again proved unsatisfactory. Other crops receiving major attention at this time were camphor, kaki persimmon, olive, jute, and flax. Grain sorghums were introduced into the Southwest and were tried out in coöperation with State colleges as a help to new settlers at a time when cattle ranches were giving way to cultivation. Wheats and other cereals were widely tested.

In 1886 the work concerning fruits and nuts had developed so rapidly that a separate division of pomology was created. This new division included among its activities the introduction of new varieties of these crops.

The founding of State experiment stations, provided for by the Morrill Act of 1887, marked another step forward in the more careful and systematic testing of newly introduced plants under technically trained personnel. As these institutions became well organized and had time to study the major plant problems of their respective regions, their requests for special plant material and their suggestions became important factors in the introduction activities of the Department of Agriculture.

In 1889 the developing and expanding Department was dignified by having its Commissioner raised to a cabinet position, a recognition of its importance in the national life. In the early nineties its work became more specialized and more divisions, including Agrostology and Pathology and Physiology, were added. This had the further effect of scattering plant introduction activities.

INFLUENCE OF SECRETARY JAMES WILSON

In 1897 James Wilson became Secretary of Agriculture. He brought to the Department a keen interest in and enthusiasm for plant introduction. He was imbued with the philosophy that the nation should supply its own needs, and should therefore introduce every needed crop possible of culture which was not established here. He threw his influence and enthusiasm behind the plant introduction work of the Department which he found already operating in a scattered way, and in 1898 organized and concentrated it in a new section under his immediate direction. A short time previous to this B. E. Fernow, chief of the division of forestry, had worked out a plan for the study and introduction of desirable forest species and had secured the services of David Fairchild, then traveling in Australasia, to start this activity. The Secretary heartily supported plans for a more comprehensive introduction program, changing only those involving forest trees, and appointed David Fairchild to head a new unit to be known as the Section of Seed and Plant Introduction, setting aside \$20,000 from the seed fund to carry out its program.

The impetus and backing given plant introduction by Secretary Wilson during three successive administrations, and the enthusiasm and indefatigable energy of David Fairchild for more than thirty years resulted in an organization whose influence and fame became world wide. It was the first official agricultural organization of its kind whose activities were exclusively devoted to plant introduction. Its methods have been studied by foreign governments, and more recently organizations, based largely on its practices, have been created in Russia and Australia.

Some time after its creation, the section was transferred from the Secretary's office to the division of botany, later returned, and finally, in 1901, incorporated in the newly created Bureau of Plant Industry. This new bureau brought together the Department's plant activities other than forestry and, under the direction of B. T. Galloway, its first chief, these were correlated into an effective organization designed to meet the rapidly expanding plant problems in American agriculture.

TURN OF THE CENTURY

The new unit devoted to plant introduction was immediately influenced by the world conditions of the time. Its organization occurred when the shade of Malthus was haunting economic graveyards and there was widespread worry over food supplies for the immediate future. The following quotation from the introduction of a bulletin on Russian cereals, issued by the Department at this time, illustrates the attitude of mind then current:

"An estimate has been made by Mr. John Hyde, statistician of the Department of Agriculture, that by the year 1931, on the basis of the present per capita consumption of cereals and the present product per acre, with a normal increase in population, the United States will require for home consumption all the cereals and hay we now consume and export, besides all that can be raised on about 150,000,000 acres additional to the present area devoted to these crops. . . . Where are we to find this land? A small portion of it only is to be found east of the Mississippi River. The remainder must come from the 600,000,000 acres of unimproved land in the arid-land states . . . and this land is too dry and too cold for the cultivation of the ordinary cereal crops."⁹

And in 1933 we are engaged in herculean efforts to curtail wheat production! The year 1898 witnessed the short, swift Spanish War, at the conclusion of which the United States found itself with far-flung tropical possessions, about which it knew little. An intensive effort to increase the nation's food supply through introduction of new field crops, especially cold- and drouth-resistant cereals, and a study of tropical plants and their introduction as an aid to the new possessions became prime factors in the determining of the early activities of the then new Office of Foreign Plant Introduction.

ORGANIZATION OF ACTIVITIES

To provide adequate facilities for organized testing of plant immigrants, special introduction gardens were established in several parts of the country to supplement coöperative testing carried on at other Departmental stations, state stations, with

⁹ Mark Alfred Carleton, "Russian Cereals Adapted for Cultivation in the United States," U. S. Department of Agriculture, Division of Botany, *Bulletin* 23, p. 3 (Washington, 1900).

individuals and nurserymen. Special facilities for safeguarding the country from new diseases and pests, including rigid inspection and thorough treatment, were provided. Careful recording through the means of a published inventory and subsequent reports was initiated. The work of the new unit dovetailed with that of the other units of the bureau. Final successful establishment of a new crop requires the combined efforts of several divisions in addition to the original introduction work; it represents a coördinated Department activity.

Agriculturally speaking, the office faced a world still largely unknown except in its broadest phases. Exploration had unlimited possibilities, and the American farmer had unlimited problems. The demand for a surer source of food supply in the years immediately ahead turned exploration toward cereal introduction especially. The first years of the century saw expeditions to Russia, both European and Asiatic, North Africa, Arabia, and China, carried on by men whose names have long become inseparably woven into plant activities of the United States Department of Agriculture.

These exploration activities brought into this country a wide range of cereal, forage, fruit and ornamental plants, literally thousands of them, many becoming of great economic importance, some of which will be specifically mentioned later. They included the principal economic crop plants cultivated in the countries of the world, and permitted their trial here under varied conditions.

INFLUENCE OF PLANT BREEDING

Concurrent with the development of organized plant introduction activities and also dating roughly from the turn of the century, the science of plant breeding has in the past thirty years become one of the dominant influences in American agriculture. In this relatively short space of time this science has demonstrated its ability in solving many problems involving resistance to disease, to insect pests, extremes of heat and cold and other vagaries of the weather, to increase yields, to advance or retard maturity dates. This new field of activity has enlarged the scope of plant introduction manifold. Species and varieties which in

themselves have little or no intrinsic value become of first importance if they possess certain desirable characters which may be transmitted through breeding. In other words plant exploration is to a large extent becoming a search for genes. This is well illustrated by several recent expeditions, including those to New Guinea seeking wild types of sugarcane to develop new, disease-resistant varieties for this country; to Russian Turkestan and Persia, Spain and North Africa for strains of alfalfa to be used in breeding varieties resistant to the bacterial wilt which is now taking heavy toll; and to Mexico and South America for wild and cultivated types of tuber-bearing *Solanums* for use in breeding disease- and cold-resistant varieties for the different potato districts of the country where losses from disease and from frost are at times disastrous.

The rôle played by the wild relatives of our cultivated crops, and their distribution throughout the world, has brought the taxonomist prominently to the fore and stresses the importance and the vital part the plant geographer occupies in carefully planned exploration and introduction activities.

SOME ADDITIONAL PRESENT DAY PROBLEMS

The introduction of material for plant breeders has not eliminated many other types of plant material. While it is true that the principal economic crops of the world have been introduced, certain other problems, involving the finding of plants of intrinsic value, are still very much a part of the program. The restoration of the range in the Western States not only involves the bringing back of native species of high forage value, but also the introduction of grasses and other browse plants suitable to areas which never have supported desirable native species. The range problem is closely related to that of erosion control and plants suitable for growing on eroded areas which will furnish feed are especially desired. The cumulative toxic effect of lead and arsenic on the body have rendered the efforts to find suitable insecticides to replace those containing these metallic salts of prime importance. Drug plants are being introduced and studied by specialists of Federal and State stations, looking toward find-

ing suitable compounds for this purpose. Closely related to breeding and selection activities is the study of suitable rootstocks for fruits and ornamentals. Wild and cultivated relatives of these two groups are forming an increasingly important part of introduction activities. The field of ornamental plants has hardly been touched so far as the introduction to American gardens of entirely new and unknown forms is concerned. With increase in leisure time gardening is becoming more and more an engrossing hobby of countless men and women. In the western parts of the country the transition of the homestead stage to that of the home has hardly taken place in many areas, and is made more difficult by the absence of any large number of trees and plants adapted to arid conditions. While many ornamental plants have resulted as by-products of other exploration activities, no expedition has yet been organized primarily for the collection of ornamental and flowering plants. Such expeditions, private as well as semi-public, have long been common in England. The time is not far distant when it will not seem an extravagant idea in our own country, and the addition of beauty and cheerfulness to our surroundings will not be of less consideration than a few more bushels per acre.

A FEW SIGNIFICANT RESULTS

Space does not permit even an enumeration of all the introductions that have been successful and have materially influenced American agriculture. There have been many and their establishment in this country has involved much careful study and investigation, extending long after their original entry. Thus, successful introduction in the larger and truer sense involves the work of all the divisions of the Bureau of Plant Industry, other bureaus of the Department of Agriculture, and frequently many coöperating state agencies. Since the establishment of the section of foreign seed and plant introduction in 1898, there have been approximately 103,500 numbered introductions recorded in its regularly published inventories. There is no complete record of the thousands of introductions prior to this time. There have been many failures. This is to be expected, but the number of

outstanding successes is surprisingly large. They have been listed in more or less detail in Department publications from time to time. The following examples will serve as illustrations:

The Washington Navel orange already mentioned, introduced from Brazil in the early 70's, came at a time when there was a new settlement in a new region facing new conditions. It supplied a new product of high quality, stimulated further settlement in an otherwise desert area, and today occupies one hundred thousand acres yielding thirty-five million dollars annually. The introduction of the durum and other hard winter wheats, and the selections made from them by Federal and State investigators established wheat growing on millions of acres of land formerly of little value except for pasture, and, according to the 1930 census, returned \$203,945,000 that year. Large milling and food manufacturing interests have developed in these areas based on this increased wheat production. In the Southwest, through Egyptian cotton introduced into Arizona, and Acala cotton found by an explorer in Mexico and now grown in southern California, Arizona, New Mexico and Texas on thousands of acres, a highly developed agriculture has been established, returning annually millions of dollars. The Virginia Savoy spinach, developed in Virginia by crossing the local variety with a disease-resistant, wild type found in Manchuria by Frank Meyer, saved the spinach-canning industry of that State. The development of the soybean industry has been one of the most spectacular phases of recent agricultural history in this country. Previous to 1903 there were only eight varieties in this country and their culture was limited to a few well-defined sections. Through new introductions from the Orient, made by Department explorers, and selections from these new strains by Federal and State investigators, the acreage has increased from less than fifty thousand in 1907 to nearly four million in 1932. Of the twenty varieties now commercially grown in the United States, all but three are introductions of the division of foreign plant introduction. In 1921 there was no soy oil produced in this country; in 1932 there were thirty-nine million pounds. In 1928 there was no export of soybeans; in 1932 there were two million bushels. In 1932 the value of the soybean

crop was estimated as follows: thirteen million bushels of seeds, \$9,000,000; two million tons of hay, \$22,500,000; grazing, \$4,000,000; cover crops, \$500,000; total, \$36,000,000.

Factories for the preparation of human foods from soybeans are appearing and many preparations are on the market. Many oil mills have already been established. The uses of the oil are many, including the manufacture of paint, linoleum, and insulating material. Henry Ford has established a laboratory for soybean experiments and produced eighteen thousand tons of soybeans in 1932. His laboratory has already devised steering wheels, knobs, distributor shells, insulators and other parts from the seeds. It reports the oil as more satisfactory than linseed and 25 per cent cheaper in connection with auto-body making. The soybean has already become an integral part of the agriculture of many states.

Among the more recent successful introductions should be mentioned the lespedezas, a group of oriental legumes now finding wide use on poor soils in the middle-eastern Mississippi Valley States, parts of the South, and also in the Northeast. The Korean lespedeza, first introduced in 1919, has spread throughout the middle Mississippi Valley. In Tennessee alone, in 1932, 8,500,000 pounds of seeds were sold. A more recent species, introduced in 1929 from Manchuria, is proving hardy on poor soils in New England.

Among the tree crops, the date palm is a striking example; through introductions made by Department explorers over a period of twenty-five years, a new industry has been established in parts of the desert areas of southern California and Arizona which yields already an annual return of over one million dollars.

Of the many ornamental trees that have been established, the Chinese elm, introduced by Frank Meyer from Manchuria, is now growing on the Great Plains from Canada to Texas; it is also common in California and other parts of the Southwest. *Rosa odorata*, a standard rootstock for hothouse roses, was also introduced by Meyer.

This discussion has emphasized the introductions of plant material into the United States. Another very important function of the division of foreign plant introduction is the supplying

of American plant material to foreign countries. This service has reached widespread proportions, with important results abroad.

From the examples given, some idea of the significance of foreign plant introduction activities conducted by the United States Department of Agriculture may be readily deduced. Through them large areas of otherwise vacant land have been brought into a high state of cultivation, and are supporting large communities; improved varieties have greatly increased the efficiency of the older settled agricultural regions. Important industries have been made possible by the products and by-products of new plant introductions. Plant introduction can rightly be considered one of the important civilizing influences at work throughout our history.

THE CATTLE TRADE ON PUGET SOUND, 1858-1890

J. ORIN OLIPHANT

The rush of gold miners to Fraser River in 1858 was the beginning of the advance of a great horde whose frenzied search for buried treasure opened a new era in the history of the Pacific Northwest. After 1858 miners pushed their way farther and farther into the interior of British Columbia. Discovery followed discovery. To the imaginative and venturesome the way seemed to be opening to the land of the rainbow's end. By 1866, Cariboo, Kootenay, and Big Bend had drawn their thousands: a few to discover wealth, many to suffer poverty and disillusionment. Meanwhile, gold had been discovered south of the international boundary, and in the early years of the 1860's miners swarmed into the Columbia River Basin and adjoining areas. At Salmon River, Boise Basin, and Owyhee, many sought, and some found, the wealth of which they had dreamed.¹ But whether successful or unsuccessful in their quest of gold, the miners had need of food, and this requirement was the opportunity of many who had resisted the lure of the gold fields. Promising markets for the farmer and the stockman were opened; agriculture and stock-raising in the American Northwest were stimulated. To provide food for the thousands of miners was a way to wealth more certain than the direct pursuit of gold.

One of the immediate consequences of the entrance of miners into the Far Northwest was the development of a trade in cattle and cattle products from Oregon and Washington to the British Northwest. Though San Francisco and Honolulu shared to some extent in the cattle trade to Victoria, western Oregon was the principal source of the meat supply of Vancouver Island, of west-

¹ The gold-mining period of the history of the Pacific Northwest is fully treated in W. J. Trimble, *The Mining Advance into the Inland Empire* (Madison, 1914). For a summary account of mining activity in British Columbia, see F. W. Howay, *British Columbia: The Making of a Province*, ch. 17-20, 25 (Toronto [1928]).

ern British Columbia, and of the American towns on lower Puget Sound for a decade after 1858. Here cattle had been accumulating for a score of years and more. Some had been driven from California to the Willamette Valley; more had been brought across the plains by successive annual immigrations since 1843.² By 1858 western Oregon had become the cattle reservoir of the Pacific Northwest. In response to the demand created by the miners in the north, bands of cattle were driven from the Willamette, Umpqua, and Rogue River valleys to the lower Columbia River. Here the trail divided. The cattle destined for the mines of eastern British Columbia went up the Columbia River to The Dalles, and thence were driven northward to the desired markets. The most important route through eastern Washington was by way of the Okanogan Valley.³ On the other hand, those intended for Vancouver Island or western British Columbia pursued different courses. Occasionally a few head were shipped from Astoria or from Portland to Victoria; but, for the most part, the cattle intended for the areas of the British Northwest accessible by sea were crossed to the north bank of the Columbia River and thence driven by the Cowlitz River route to Puget Sound.

Although the trade in cattle by all routes from Oregon and Washington to the British Northwest during the mining period might well be treated as a unit, it is nevertheless feasible to segregate for particular study that portion which moved by way of Puget Sound. It was practically inevitable that this should have become the principal route by which Victoria and the por-

² C. S. Kingston, "Introduction of Cattle into the Pacific Northwest," *Wash. Hist. Quart.*, 14: 163-185 (July, 1923).

³ For a contemporaneous description and a brief account of the use made of this route, see R. C. Lundin Brown, *British Columbia: An Essay*, 20-22 (New Westminster, 1863). See also the *British Colonist* (Victoria, V. I.), Nov. 9, 1861; *Morning Oregonian* (Portland, Oreg.), Mar. 22, 1861; *Washington Statesman* (Walla Walla, Wash.), Feb. 1, 1862; Governor James Douglas to the Duke of Newcastle, Oct. 9, 1860, in *Further Papers Relative to the Affairs of British Columbia*, Part 4 (London, 1862), 22; A. J. Splawn, *Ka-mi-akin, the Last Hero of the Yakimas*, ch. 22, 25 (Portland, Oreg., 1917); Daniel M. Drumheller, "Uncle Dan" Drumheller Tells Thrills of Western Trails in 1854, p. 66-70, 123-128 (Spokane, Wash., 1925). Both Splawn and Drumheller were pioneer cattle drovers of the Pacific Northwest. The titles of their books are misleading.

tion of British Columbia within her trading territory should be furnished with fresh meat. It was the shortest and the most economical. Save for the crossing of the Columbia River, cattle could be brought by land from western Oregon to the Puget Sound Basin, and since there were facilities for pasturing in the Puget Sound country, the expense of transportation could be lessened by moving the cattle north in large bands. From the pasture grounds in western Washington they could be shipped in small lots as the needs of the northern markets demanded. It was owing to the abundance of nearby pasture lands that Steilacoom became the chief cattle-shipping port on Puget Sound. Given these advantages, therefore, it will be easy to understand why the shipments of live cattle from San Francisco and from Honolulu to Victoria during the period covered by this study were neither large nor numerous. Whether the cattle for the Victoria market were shipped on foot or in the form of fresh beef, the Puget Sound route was decidedly the most advantageous.

Oregon cattle dealers responded quickly to the Fraser River excitement. In July, 1858, beef cattle for the new mines were passing through Oregon City,⁴ and in August of that year the editor of an Olympia newspaper complained of the difficulty of getting vessels to carry cattle down Puget Sound. "For the last few weeks," he declared, "large bands of beef cattle have been driven here from Oregon, for the supply of the market at Bellingham Bay, Victoria, etc. As we have had no steamer running from the head of the Sound, connecting with those places, for the past few weeks, much disappointment and difficulty has been experienced in getting them to market. Several hundred have been driven down the trail to Seattle, and thence lightered to Whidby's Island and other places north. Beef is *beef* in that direction."⁵ Within a few weeks the bark *Gold Hunter* had begun to carry cattle from Olympia to Bellingham Bay.⁶

The Puget Sound cattle trade which got under way in 1858

⁴ *Oregon Argus* (Oregon City, Ore.), July 17, 1858.

⁵ "Beef Cattle From Oregon," *Pioneer and Democrat* (Olympia, Wash.), Aug. 13, 1858.

⁶ *Ibid.*, Aug. 20, Sept. 3, 1858.

continued through 1859. According to an unofficial report, there were shipped from Puget Sound ports to Victoria, between January 1 and December 22, 1859, cattle, horses, and sheep to the number of 2,145. The value of these animals was \$73,207.⁷ In this trade were employed, more or less regularly, the steamers *Constitution*, *Wilson G. Hunt*, *Julia*, and *Eliza Anderson*. From San Francisco and from Portland, Victoria imports during 1859 included butter, beef, cheese, and cattle.⁸ The shipments from American ports, however, did not fully meet the demands of Victoria and of western British Columbia for meat. Livestock from the Sandwich Islands began to enter this market. The arrival at Victoria of the clipper *Eliza* and *Ella* from these islands in June, 1859, with a cargo which included beef cattle and sheep furnished the occasion for an editorial in the *British Colonist*, a newspaper published in Victoria. The editor of this journal would have preferred to see "island" produce instead of cattle coming to the Victoria market, but he recognized the fact that, until the interior of Vancouver Island should become occupied by farmers, Victoria would be compelled to draw her supplies of cattle and sheep either from the Sandwich Islands or from Washington Territory.⁹

During 1860 the trade in cattle and in cattle products on Puget Sound exceeded that of the preceding year. Victoria continued to import from San Francisco cattle, beef, butter, and cheese, and from Portland a few head of cattle and quantities of dairy products; and an occasional cargo of cattle and sheep arrived from Honolulu. Most of the cattle for the Island port, however, were brought on vessels clearing from Port Townsend. The steamer *Eliza Anderson* was regularly employed as a cattle boat on Puget Sound, and from time to time other vessels carrying cattle cleared from Port Townsend for Victoria.¹⁰ In the

⁷ J. Despard Pemberton, *Facts and Figures Relating to Vancouver Island and British Columbia, Showing What to Expect and How to Get There*, 64 (London, 1860). Pemberton was surveyor-general of Vancouver Island when this book was published.

⁸ *British Colonist*, Jan.-Dec., 1859.

⁹ *Ibid.*, June 27, 1859. See also the issue of July 25, 1859.

¹⁰ *British Colonist*, Jan. 19-Aug. 24, Dec. 18, 1860, and Jan. 15, Mar. 25, 1861;

total exports from the Puget Sound district to Victoria during the first quarter of 1860, valued at \$51,835.64, there were included 501 head of cattle worth \$23,900, and fifty-six quarters of beef worth \$1,040.¹¹ During the third quarter of that year exports worth \$57,335.10 from the Puget Sound district to Victoria included 331 head of cattle and calves worth \$12,930, while exports of the value of \$4,945.88 from the same district to New Westminster included thirty-nine head of cattle worth \$1,000.¹² During the last quarter of the year, 310 head of cattle worth \$14,059 were cleared from Port Townsend for Victoria.¹³ The growing importance of Victoria's imports from Washington was not overlooked by contemporary observers. After reading in the *Port Townsend Register* of February 6, 1861, a statement of Puget Sound exports in 1860, the editor of the *British Colonist* observed that Victoria was the largest foreign customer of Washington Territory: that more lumber, cattle, and other products had been exported from that Territory to Victoria in 1860 than had been shipped from Port Townsend to all other ports put together. Puget Sound exports to Victoria, including \$300 worth of lumber to Barclay Sound, had amounted to \$206,671. Of this sum, \$96,435 accounted for 3,624 head of cattle, sheep, hogs, and mules. "Nearly one-half of our imports [from Washington Territory] the last year was cattle," he declared. "Oregon doubtless was made tributary to supply them to some extent. We need not therefore give credit to the Sound for the whole amount of the exports of the Territory."¹⁴

The contribution of Oregon to this trade was greater, however, than the editor of the *British Colonist* knew. More accurate was the information of the editor of the *Port Townsend North-West*, who, in October, 1860, was urging the production of more cattle, butter, and eggs in Washington Territory. "Port Townsend

North-West (Port Townsend, Wash.), July 5-Dec. 20, 1860; *Port Townsend Register* (Port Townsend, Wash.), Apr. 18, Nov. 14, 1860, and Jan. 2, 1861.

¹¹ *Port Townsend Register*, Apr. 18, 1860.

¹² *Ibid.*, Nov. 14, 1860.

¹³ *Ibid.*, Jan. 2, 1861.

¹⁴ *British Colonist*, Feb. 15, 1861.

alone consumes on an average three beeves in two days, or 535 head per year, beside mutton and pork," he wrote. "For this beef alone, the neat little sum of \$16,050 is sent to Oregon, every cent of which should be saved to our farmers. . . . The Sound country produces about one-sixteenth of the butter she consumes, and pays for an imported, inferior article, prices which would yield a handsome profit for a better quality put up here."¹⁵

Between 1861 and 1864, as the accompanying table of imports shows, the Victoria market was rapidly expanding. In 1865 the tide began to turn. Washington Territory shared in this market to the extent of more than a quarter of a million dollars annually on an average for the five-year period, but it is not possible, with the data at hand, to segregate from the annual totals the exact sums representing imports of cattle and of cattle products by the Puget Sound route. The customhouse records are not available, and the newspaper accounts are incomplete. But from the scanty evidence which has been collected it appears that, between 1861 and 1865, the trade in these products from Puget Sound to Victoria was important. The trend of business conditions in Victoria in those years would indicate a considerable demand for such products, and the want of evidence to show that cattle in considerable numbers were being sent to that market by other routes argues in favor of a substantial trade by the route much used in the years just preceding.

Victoria Imports, 1861-1865¹⁶

	1861	1862	1863	1864	1865
San Francisco.....	\$1,288,359	\$2,345,066	\$1,880,117	\$1,635,272	\$1,284,687
Washington Territory..	228,250	224,793	242,781	277,123	222,056
Oregon.....	216,603	75,370	108,603	163,320	181,160
Sandwich Islands.....	54,382	112,108	113,486	19,836	93,678
All countries.....	2,335,089	3,555,477	3,887,812	5,578,923	2,902,871

That a trade in cattle from the Puget Sound district to Victoria was continuous through 1861 may be ascertained from newspaper reports of clearances of vessels from Port Townsend. At

¹⁵ *North-West*, Oct. 25, 1860.

¹⁶ These figures have been derived from the published abstracts of reports of Allen Francis, United States consul at Victoria. 38th Cong., 2d Sess., *H. Ex. Doc. 60*, 11: 157; 39th Cong., 1st Sess., *H. Ex. Doc. 56*, 10: 120.

regular and frequent intervals during the year the *Eliza Anderson* sailed from this port for Victoria with cargoes of which cattle formed the principal part. Less frequently the schooner *Flying Mist* and the steamer *Enterprise*, carrying similar cargoes, were reported in the weekly list of clearances from Puget Sound to Victoria.¹⁷ During the first quarter of the year, according to unofficial compilations, Victoria imported through Port Townsend 410 head of cattle worth \$13,760, and during the last quarter 824 head worth \$17,475. The Puget Sound ports, however, had no monopoly of the Victoria cattle market. In March, 1861, Victoria received from Honolulu sixty-eight head of cattle worth \$2,420, and from Portland, eighty-five head worth \$3,740. In October of that year the Victoria imports of cattle from Astoria and from San Francisco were valued at \$3,000.¹⁸

Though shipments of cattle from the Puget Sound district to Victoria were regularly made in the spring of 1862,¹⁹ and probably were continued throughout the year, the want of continuous records precludes an accurate statement of the trade for that year. One explanation of the scarcity of the newspaper reports of the transactions at the Puget Sound customhouse in 1862 may be found in the following statement of the editor of the Port Townsend *North-West*: "Friday, Jan. 24th—10 o'clock A.M.

¹⁷ For some details of the trade in 1861, see *North-West*, Jan. 31-Nov. 23, 1861; *British Colonist*, Feb. 26, Mar. 8, Apr. 4, 9, Aug. 30, Nov. 25, Dec. 5, 1861, and Jan. 4, 27, 1862; *Oregon Farmer* (Salem, Oreg.), Mar. 16, 1861, pp. 116, 118; *Weekly Oregonian* (Portland, Oreg.), Oct. 26, Nov. 16, 1861; *Morning Oregonian*, Mar. 22, 30, Apr. 6, 1861. The *British Colonist* of Apr. 4, 1861, quoted the *Puget Sound Herald*, of Steilacoom, Wash., as follows: "On Tuesday last the schooner *Flying Mist*, Capt. Berry, took from Keach's wharf 100 head of cattle for Victoria, whence they were destined for Fraser River, for the miners. This, though a large freight of cattle for one trip, is by no means an unusual shipment for the *Flying Mist*, which has been profitably employed for the past two years mainly in this trade."

¹⁸ *British Colonist*, Feb. 26, Mar. 8, Apr. 9, Nov. 25, 1861, and Jan. 4, 27, 1862. These figures are not entirely accurate. Though the summary for March shows no imports of cattle from Puget Sound, the weekly marine reports in the *North-West* reveal that in every month from January to December, 1861, the *Eliza Anderson* cleared from Port Townsend with cattle for Victoria.

¹⁹ *North-West*, Jan. 18-May 24, 1862; *Weekly Oregonian*, Feb. 22, Mar. 15, 29, May 24, 1862; *British Colonist*, Apr. 12, May 24, 1862.

Victor Smith, Collector of Customs, special agent, &c., denied us at this hour access to the books of the Custom House. We are therefore unable to present any Marine Report. We are, hereafter, dependent upon facilities entirely outside the Custom House."²⁰ Another explanation is the act of Congress designating Port Angeles as the port of entry for the Puget Sound district from October 1, 1862.²¹ By this removal the customhouse records were put out of the reach of the Port Townsend editors. This lack of records is disconcerting. From a United States consular report from Victoria, however, it is ascertained that during the first half of 1862 Victoria imported from Port Townsend \$115,608 worth of livestock, provisions, and other goods.²² For the second half no report has been found, but there is some evidence of a continuing trade in livestock. In the autumn of 1862, the *Eliza Anderson* was reported to be carrying on her trips down the Sound "large numbers of cattle and sheep,"²³ and in December the steamer *Emily Harris* sailed from Olympia with cattle for Victoria.²⁴

In the summer of 1863 the cattle trade on Puget Sound was temporarily interrupted by a government order laying an embargo on exports of livestock from the United States. This caused considerable excitement in the Pacific Northwest. On July 1, the *Morning Oregonian* published a letter from Olympia in which the writer declared that Captain Finch of the *Eliza Anderson* had been informed by Victor Smith, collector of customs for the Puget Sound district, that no more livestock could be transported to points north of the boundary. "There are several hundred head of beef cattle in Thurston and Pierce counties contracted for and awaiting shipment to Victoria," he declared. "The

²⁰ *North-West*, Feb. 1, 1862.

²¹ Between Oct. 1, 1862, and Oct. 1, 1866, Port Angeles was the port of entry for the district of Puget Sound. On the latter date the port of entry was re-established at Port Townsend. *U. S. Stat. at Large*, 12:432, 14:250. For these four years the files of Port Townsend newspapers are not of exceptional value for the study of the Puget Sound cattle trade.

²² 37th Cong., 3d Sess., *H. Ex. Doc.* 63, 12:146, 147.

²³ *Washington Standard* (Olympia, Wash.), Nov. 1, 1862.

²⁴ *Ibid.*, Dec. 13, 1862.

English navy and military posts, as well as the people, have all to be supplied with American beef. I hope, for the credit of the Government, that this miserable appointee²⁵ is not doing this out of revenge." The editor of the *Morning Oregonian*, however, better informed than his angry correspondent, believed that the instructions to the collector had been issued in compliance with the provisions of a recent order of the War Department²⁶ forbidding the exportation of horses and cattle from the United States on the ground that they might be needed for military purposes.²⁷

Meanwhile, the collector of the Puget Sound district had written to the Treasury Department regarding the order, and had been informed by the Acting Secretary of the Treasury, in a letter dated August 4, 1863, that, in view of the "condition of things on the Pacific coast, it is not deemed expedient at present to suspend or modify the order prohibiting such shipments." The letter from the Treasury Department was published in the *British Colonist* of September 8, accompanied by this enlightening comment:

"In connection with the above, we are informed, that letters received last mail by the collector of the Puget Sound district are of such a nature, that that officer will not be at liberty to permit even the shipment of dressed meats as heretofore. . . . Of the feeling which this prohibitory order will engender on both sides of the Sound there cannot be two opinions. In our case, although we may suffer temporary inconvenience, there is a remedy within our reach which ultimately will tend to benefit rather than injure these colonies.

²⁵ This of course refers to Victor Smith. For a brief account of the career in the Pacific Northwest of this unpopular and luckless officer, see H. H. Bancroft, *Washington, Idaho, and Montana, 1845-1899* [*History of the Pacific States of North America*, XXVI], 220-226 (San Francisco, 1890). Three letters from Smith to Secretary S. P. Chase, dated Oct. 5, 29, and Dec. 4, 1861, are published in the *Wash. Hist. Quart.*, 16: 265-272.

²⁶ This order, dated May 13, 1863, is published in the *Weekly Oregonian*, Aug. 8, 1863. It is accompanied by President Lincoln's Executive Order of Nov. 21, 1862, upon which the War Department order was based, and by Secretary Salmon P. Chase's circular to collectors, dated May 19, 1863.

²⁷ *Morning Oregonian*, July 1, 1863.

"With the people of Washington Territory the case is widely different, and we fail ourselves to see 'the condition of things on the Pacific Coast,' which renders it expedient for the United States Government thus to evince an unfriendly spirit towards a neighboring power, and at the same time inflict injury upon its own loyal and unoffending subjects. Let our friends however on the other side represent their own grievances and fight their own battles; we have now a certainty to deal with, and the sooner we bestir ourselves the better."²⁸

The editor of the *British Colonist* believed that the embargo would result in an extensive development of grazing interests on Vancouver Island and in the discovery of sources of meat supply where the products of the Island colony would be in greater demand than they were in the American Northwest.

That rigorous enforcement of the prohibitory order would have given rise to an illicit trade in cattle and beef across the international boundary is altogether probable. Fortunately, a change of policy removed the temptation.²⁹ On September 4, 1863, President Lincoln signed an executive order modifying the order of the War Department of May 13, 1863, so as to permit the exportation of any livestock raised in any State or Territory bounded by the Pacific Coast from any port of such State or Territory.³⁰ A notice of the modification was immediately telegraphed by Salmon P. Chase, Secretary of the Treasury, to the collector of customs at San Francisco, with the instruction to notify "all the collectors." Chase's telegram was published in the *Morning Oregonian* of September 12, accompanied by an explanatory remark that the prohibition, as originally issued, "was not intended to apply to the Pacific coast, but only to those regions which might be deprived of part of their material which

²⁸ *British Colonist*, Sept. 8, 1863.

²⁹ This is not intended to convey the impression that no illicit shipments were made during the period of the embargo. It would not be surprising if some smuggling was carried on. Evidence on this point is too vague to justify a conclusion. See the *Morning Oregonian*, July 9, 1863, quoting the *Puget Sound Herald*, and the *Morning Oregonian*, Sept. 12, 1863.

³⁰ James D. Richardson (compiler), *A Compilation of the Messages and Papers of the Presidents, 1789-1908* (Bureau of National Literature and Art, 1908), 6: 178.

might be useful in war."³¹ Whether or not this explanation was true, the modification of the prohibitory order was in accord with reason. The Pacific Coast was so remote from the Eastern States that it is difficult to understand how the disposal of livestock in the Pacific Northwest could have affected the outcome of the Civil War.

Nothing illustrates more clearly the importance to the region immediately affected of the cattle trade from the American to the British Northwest in 1863 than its temporary obstruction. The satisfaction occasioned by the lifting of the embargo was as great as had been the resentment caused by its establishment. A letter to the *Morning Oregonian*, dated at Victoria on September 24, 1863, probably expressed the true state of feeling both north and south of the international boundary. Said the writer: ". . . . The 'beef embargo' caused much complaint here and in Washington Territory. It had the effect of materially advancing the price of beef, mutton, and pork. The butchers were about raising the price of beef to 40 cents per pound, when happily the news arrived that the 'embargo' was dispensed with by Government so far as this coast was concerned. This news caused great rejoicing. . . ." ³²

Before the end of September, 1863, Victoria was receiving cattle and cattle products by the usual channels.³³ Neither the volume nor the value of such imports for 1863, however, can be accurately stated.³⁴ Some embarrassment may have been caused in the British Northwest by the temporary interruption of the

³¹ *Morning Oregonian*, Sept. 12, 1863.

³² "From a Temporary Sojourner in Victoria, V. I.," *Morning Oregonian*, Oct. 5, 1863.

³³ *British Colonist*, Sept. 8-29, 1863.

³⁴ For the trade during the early part of the year, see the *Morning Oregonian*, Jan. 14-July 9, 1863, and *The Daily Times* (Portland, Oreg.), June 30, 1863; for the trade from September to December, inclusive, see the *Morning Oregonian*, Oct. 6, 13, and Dec. 15, 1863, and the *British Colonist*, Sept. 8-Dec. 8, 1863, and Jan. 5, 1864. In January, 1864, Allen Francis wrote that little attention was being given to farming on Vancouver Island; that for "beef, pork, bacon, and provisions generally," the people of the Island were almost wholly dependent on California, Oregon, and Washington Territory. 38th Cong., 2d Sess., *H. Ex. Doc.* 60, 11: 156.

Puget Sound trade. In February, 1864, a scarcity of meat in Victoria was reported, and the shortage was attributed to the failure of the *Eliza Anderson* to bring over "the usual quantity of live stock."³⁵

As for preceding years, so for 1864 the available statistics of the cattle trade from the American Northwest to Victoria are unsatisfactory. For the fiscal year ending June 30, 1864, the American official statement of exports of cattle from Oregon and Washington shows 2,337 head worth \$71,342.³⁶ For nine months of the calendar year 1864 Victoria imports of cattle from the Puget Sound district, according to the *British Colonist*, totaled 2,967 head worth \$72,682.³⁷ During the same period Victoria imported directly from Oregon 133 head worth \$1,750.³⁸ The *Eliza Anderson* continued to be employed in 1864 as a cattle carrier in this trade.³⁹

During 1865 the cattle trade on Puget Sound probably differed little from that of 1864. For the fiscal year ending June 30, 1865, the American official statement shows exports from the United States to the British American possessions on the Pacific Coast totaling 3,438 head of cattle worth \$146,045.⁴⁰ Though some of this trade passed to British Columbia by way of cattle trails through eastern Washington, there was nevertheless a continuance of the trade on Puget Sound.⁴¹ In fact, toward the close of the year an Olympia newspaper declared that the "driving of fat cattle and sheep from Oregon to this Territory, to supply the

³⁵ *Washington Standard*, Feb. 13, 1864, quoting the *Victoria Chronicle*.

³⁶ *Report of the Secretary of the Treasury . . . on the Commerce and Navigation of the United States for the Year Ending June 30, 1864*, p. 37. Hereafter this series will be cited as *Commerce and Navigation of the United States*. The returns given in this series of reports of the exports of cattle from Oregon and Washington before 1864 are so small that it is obvious they are incomplete. Hence they have been disregarded.

³⁷ *British Colonist*, Feb. 9, Mar. 8, Apr. 5, May 3, June 7, July 5, Sept. 6, Oct. 11, Nov. 8, 1864.

³⁸ *Ibid.*, Mar. 8, May 3, Sept. 6, 1864.

³⁹ *Pacific Tribune* (Olympia, Wash.), June 18, 1864; *Washington Standard*, Dec. 5, 1864.

⁴⁰ *Commerce and Navigation of the United States*, 1865, p. 3.

⁴¹ During this fiscal year there were exported from the Puget Sound district 3,315 head of cattle valued at \$143,706, and from Oregon, fifty-three head worth \$1,259. *Ibid.*, 57.

markets on the Sound, Victoria, and British Columbia, is growing into quite a successful business, in which several drovers are exclusively engaged."⁴²

Additional information relating to the early cattle trade on Puget Sound is contained in the voluminous testimony collected by the British and American Joint Commission appointed to make a final settlement of the claims of the Hudson's Bay and Puget's Sound Agricultural Companies protected by the Oregon Boundary Treaty of 1846. On September 15, 1865, Robert M. Hutchinson, a native-born American, testified at Victoria that he was a cattle dealer and had been occupied in "bringing cattle from Oregon *via* Washington Territory for nearly four years." Beef for the supply of the Puget Sound area, Victoria, and British Columbia, he asserted, came mainly from Oregon. Bands of Oregon cattle were brought across Washington Territory to Puget Sound, where they were kept from one to twelve months. Owing to the facilities for pasturing nearby, Steilacoom was the chief shipping port to the Victoria market. During the year ending July 1, 1865, Hutchinson sent from this port to Victoria about 1,200 head of cattle and about 4,500 head of sheep. These shipments, he believed, represented about half the cattle and sheep exported from Puget Sound to Victoria in that period.⁴³

Hutchinson's description of the Puget Sound cattle trade was substantially corroborated by the testimony of W. W. Miller, an Olympia broker, on November 20, 1866. Miller declared that British Columbia, Vancouver Island, and the vessels trading to these countries and to Puget Sound depended almost entirely upon Oregon and Washington for fresh meat. To supply this demand large numbers of cattle and other livestock were annually driven from Oregon to Washington Territory and shipped from Puget Sound ports to Victoria and to other places as conditions warranted. Nearly all the shipments, he declared, were made from the ports of Steilacoom and Olympia.⁴⁴

⁴² *Washington Standard*, Nov. 4, 1865.

⁴³ *Evidence on the Part of the Puget's Sound Agricultural Company*, 129-131 (Montreal, 1868).

⁴⁴ *Evidence for the United States in the Matter of the Claim of the Puget's Sound Agricultural Company*. . . , 80-86 (Washington, 1867).

Not less illuminating is the testimony given in Oregon City, August 24, 1866, by Jesse Applegate, an Oregon pioneer of 1843. "At present," he said, "cattle and sheep dealers for the Victoria markets purchase stock from me, in the Umpqua Valley, southern Oregon." Proceeding cautiously, being careful to state that some questions he answered "from information," Applegate asserted that since the discovery of mines in British Columbia in 1858, large numbers of cattle, horses, sheep, and swine had been purchased annually in Oregon to supply the markets of Puget Sound, Vancouver Island, and British Columbia. The "stock designed for Victoria markets," he continued, "are taken by way of the Cowlitz to Puget's Sound, from there shipped; those for British Columbia, by the way of the Columbia river. By the Victoria markets, I mean to include the other markets in British America, most convenient to that point." Dealers found it profitable, he declared, to take cattle in large droves from Oregon. Since the cattle could only be gradually shipped to market, it became necessary to provide pasture grounds for those driven to Puget Sound. Near Steilacoom, Applegate's attention had been called to two large enclosures in which cattle driven from Oregon were allowed to rest and graze. Steilacoom, he was told, was the best cattle-shipping point on Puget Sound.⁴⁵

Although the port of Victoria has loomed large in the preceding exposition of the early cattle trade on Puget Sound, it was not the destination of all the American livestock shipped from the Puget Sound Basin to the British Northwest in the flush years of the mining period. Some cargoes of cattle were exported directly from Puget Sound ports to New Westminster—how many, it is difficult to determine. Also there was a considerable re-export trade from Vancouver Island to the mainland. It has been asserted that in 1862 Vancouver Island exported to British Columbia 912 head of cattle worth \$71,305.50.⁴⁶ As has already

⁴⁵ *Ibid.*, 31-33.

⁴⁶ R. C. Lundin Brown, *British Columbia*, appendix F, xx. There was a duty on beef cattle imported into British Columbia, but imports of fresh meat were not taxed. *Ibid.*, 49; appendix G, xxi. For proclamations of Governor James Douglas announcing tariff schedules for British Columbia in 1858 and 1859, see *Papers Relative to the Affairs of British Columbia*, Part 2 (London, 1859), 42, and *Further Papers Relative to the Affairs of British Columbia*, Part 3 (London, 1860), 55.

been intimated, the greater part of the cattle exported directly from the American Northwest to British Columbia during the mining period were sent northward by routes east of the Cascade Mountains.

The growth of American towns on lower Puget Sound in the 1860's was a factor in the Pacific Northwest cattle trade during that decade. No exact statistics of the meat consumption of these towns, however, are at hand. Nor is there a record of the shipments of meat to the American garrison on San Juan Island. Though these markets should not be overlooked in a survey of the trade, attention nevertheless tends to center on Victoria, the principal market for cattle shipped from Puget Sound ports.

By 1865, however, Victoria's boom days were drawing to a close, if we may rely upon the reports of Allen Francis, American consul at that port. Francis asserts that a business depression, starting in the summer of 1864, had induced a serious decline in Victoria imports in 1865. Business failures occurred in Victoria and in British Columbia. Owing to floods, the year 1865 was represented by him to have been disastrous to mining in British Columbia.⁴⁷ In the following year an anticipated rush to the Big Bend mines by way of Victoria did not take place, and in the autumn of 1866 Francis reported that business in Victoria was prostrated.⁴⁸ "No city on the Pacific coast occupies a more deplorable position commercially than does Victoria. . . . A general collapse pervades every branch of business."⁴⁹ During the remaining years of this decade, the American consul continued to paint doleful pictures of economic conditions in Victoria and in western British Columbia. In 1867 imports were still declining; people were moving away from Victoria and also from the mainland; a "settled despondency" seemed to pervade the whole community.⁵⁰ Nor did business recover either in 1868 or in 1869. The discovery of new diggings in the Kootenay country excited little interest in Victoria. That area was

⁴⁷ 39th Cong., 1st Sess., *H. Ex. Doc. 56*, 10: 113, 120.

⁴⁸ 39th Cong., 2d Sess., *H. Ex. Doc. 81*, 13: 117.

⁴⁹ *Ibid.*, 118.

⁵⁰ 40th Cong., 2d Sess., *H. Ex. Doc. 160*, 14: 201-206.

chiefly supplied from the Walla Walla Valley.⁵¹ The departure of people from Victoria had not ceased in 1869, and, significant of the changing times, it was observed in that year that on the mainland of British Columbia considerable attention was being given to the livestock business. From this source the Cariboo mines were being supplied at "much lower rates" than the Victoria market could afford.⁵²

In the midst of this economic disturbance word came to the British Northwest of the passage of an act by Parliament providing for the union of Vancouver Island and British Columbia. Although such action was fully warranted by considerations of governmental economy, Allen Francis reported to his government that the law had been passed in opposition to the "expressed wishes" of the people of Vancouver Island. One effect of the union would be to "abolish Victoria as a free port."⁵³ "It needed but this measure," he continued, "to complete the destruction of this unfortunate colony." In Victoria, he avowed, annexation to the United States was openly advocated.⁵⁴ It is probable, however, that Francis exaggerated the opposition to the union of the two colonies.⁵⁵ But whatever may have been the true desire of the people of Vancouver Island, the union was effected in November, 1866.⁵⁶ In the spring of 1867, Francis reported that a new tariff law had been enacted by the colonial parliament laying duties of three dollars a head on beef cattle and two dollars a head on milch cows. Ad valorem duties were imposed on both fresh and preserved meats. Calves were to be

⁵¹ 40th Cong., 3d Sess., *H. Ex. Doc. 87*, 14: 294.

⁵² 41st Cong., 3d Sess., *H. Ex. Doc. 18*, 6: 224.

⁵³ 39th Cong., 2d Sess., *H. Ex. Doc. 81*, 13: 119. Of the status of Victoria as a free port, Allen Francis had written on Sept. 30, 1862: "Victoria, in one sense, is a free port; that is, no duties are collected on imports, but all merchandise, produce, etc., before landing, are required to take out 'landing permits,' the cost of which is governed by their value." 37th Cong., 3d Sess., *H. Ex. Doc. 63*, 12: 145.

⁵⁴ There was a large American element on Vancouver Island. Francis reported in 1862 that nearly one-half of the commercial business of Victoria was in the hands of Americans. 37th Cong., 3d Sess., *H. Ex. Doc. 63*, 12: 148.

⁵⁵ For an entirely different view of the matter, see F. W. Howay, *British Columbia*, 161.

⁵⁶ *Ibid.*, 164.

admitted free.⁵⁷ By 1868 the effects of this law, according to a consular report, had been to stimulate agriculture on Vancouver Island and to exclude from the Victoria market many of the products of California, Oregon, and Washington Territory.⁵⁸ Yet, notwithstanding such protection, the Island in 1869 was producing only half of what it consumed.⁵⁹

The developments which have been described in preceding paragraphs were certain to affect the Puget Sound cattle trade. During the fiscal year ending June 30, 1866, the exports of American cattle to the British Northwest amounted to 2,008 head worth \$93,200.⁶⁰ There appears to be no way, however, of ascertaining what proportion was shipped from Puget Sound ports. During the fiscal year ending June 30, 1867, American cattle exports to British possessions on the Pacific Coast declined to 670 head worth \$22,790,⁶¹ but in the following year there was an increase to 1,555 head worth \$70,424.⁶² With the exception of fifty-one head, the exports for both years were made from the Puget Sound district.⁶³ During the year ending June 30, 1869, the value of all livestock exported from the United States to British North America (Canada excepted) was \$123,275, and for the same year the value of all livestock exported from the

⁵⁷ 40th Cong., 2d Sess., *H. Ex. Doc. 160*, 14: 203.

⁵⁸ 40th Cong., 3d Sess., *H. Ex. Doc. 87*, 14: 293.

⁵⁹ 41st Cong., 3d Sess., *H. Ex. Doc. 18*, 6: 224.

⁶⁰ *Commerce and Navigation of the United States*, 1866, p. 2. For a statement of livestock imported into British Columbia by way of the Little Dalles in 1866, see Trimble, *op. cit.*, 107.

⁶¹ *Commerce and Navigation of the United States*, 1867, Part 1, p. 2. This was also the number exported from the Puget Sound district. *Ibid.*, Part 2, p. 291. For contemporaneous mention of the Puget Sound cattle trade, see *Weekly Oregonian*, Aug. 3, 1867, and *Port Townsend Message* (Port Townsend, Wash.), June 3, 1867. These newspaper accounts indicate a more prosperous trade than the government figures show. Reporting from Victoria for the first quarter of 1867, Allen Francis wrote: "The imports represented as from Washington Territory [\$31,744.31] embrace the cattle, sheep, and swine driven from Oregon through that Territory to Puget Sound, and shipped on steamers to this port." 40th Cong., 2d Sess., *H. Ex. Doc. 160*, 14: 202.

⁶² *Commerce and Navigation of the United States*, 1868, Part I, p. 2. For contemporaneous notice of cattle exports from Olympia to New Westminster and to Victoria, see *Pacific Tribune* (Olympia, Wash.), May 23, 30, Sept. 12, 1868.

⁶³ Fifty-one were exported from Oregon.

Puget Sound district was \$108,370, and from Oregon, \$13,929.⁶⁴ The cattle exports of this year are not segregated. During the three years immediately following, the exports of cattle from the United States to British possessions on the Pacific coast were 1,565 head worth \$85,276, 1,429 head worth \$84,283, and 1,557 head worth \$68,960, respectively; from the Puget Sound district there were exported in these years 1,467 head worth \$80,865, 1,016 head worth \$57,765, and 1,079 head worth \$48,325, respectively.⁶⁵

During the years thus far covered by this study, the exportation of beef from the Puget Sound district was so slight as scarcely to have affected the trade in live cattle to the British Northwest. Before 1871 no record has been found showing exports of beef from the Puget Sound district to "all foreign countries" amounting to as much as 20,000 pounds per annum. From a total of 25,025 pounds during the year ending June 30, 1871, there was an increase to 67,434 pounds in the year ending June 30, 1873. Thereafter for several years the exports of beef from the Puget Sound district declined sharply.⁶⁶ The early cattle trade from Puget Sound to the British Northwest was essentially a trade in live cattle.

From 1873 to 1890 the movement of American cattle to British Columbia may be observed in the accompanying table. Since the annual exports of cattle from the Puget Sound district in those years correspond closely to the annual exports of cattle from the United States to British Columbia, one may conclude that virtually all the cattle shipped from the Puget Sound district during that period were designed for British Columbia. The proximity of the American Northwest to that province, the abundance of cattle in the former area, the fact of a well established trade in preceding years, and the frequency of contemporaneous references to Victoria as a market for Oregon and Wash-

⁶⁴ *Commerce and Navigation of the United States*, 1869, Part 1, p. 148, 179. In March and in June of 1869 the *Eliza Anderson* was carrying cattle and sheep in the Puget Sound trade. *Seattle Intelligencer* (Seattle, Wash.), Mar. 22, June 14, 1869.

⁶⁵ *Commerce and Navigation of the United States*, 1870-1872.

⁶⁶ *Ibid.*

ington cattle preclude any other conclusion. It is also fairly certain that the greater part, probably almost all, of these cattle were exported from Puget Sound ports. In the eastern part of British Columbia there was no longer a demand for American beef. The golden days of placer mining were gone. Moreover, stock-raising had developed in the eastern part of the province. American cattle had been drawn upon to establish this industry.⁶⁷

The figures presented in the accompanying table were derived from American sources. Complete Canadian returns are not available to set opposite them and, for the few years for which they have been collected, they are, unfortunately, somewhat at variance with the American.⁶⁸ The present writer makes no attempt to resolve this difficulty. Conflicting or incomplete statistics confront the student at every step in the study of the history of the cattle industry in the Oregon Country.

Exports of Cattle From the Puget Sound Customs District ⁶⁹			Exports of Cattle From the United States to British Columbia ⁶⁹		
Year ending June 30	Number	Value	Year ending June 30	Number	Value
1873.	2,439	\$76,243	1873.	2,439	\$76,243
1874.	3,621	68,776	1874.	3,621	68,776
1875.	1,073	23,487	1875.	1,073	23,487
1876.	1,240	25,150	1876.	1,240	25,150

⁶⁷ Governor James Douglas to the Duke of Newcastle, July 16, 1861, in *Further Papers Relative to the Affairs of British Columbia*, Part 4 (London, 1862), 54; E. O. S. Scholefield and F. W. Howay, *British Columbia From the Earliest Times to the Present*, 2: 598, 599 (Vancouver, 1914).

⁶⁸ A British Columbia official statement of provincial imports shows that during the fiscal year ending June 30, 1873, there were brought into the province from the United States 2,599 head of horned cattle worth \$67,403. Excepting 728 head which entered by land, all were brought by water, 153 head in British and 1,718 head in foreign ships. Province of British Columbia, *Returns of Imports and Exports for the Year Ending June 30th, 1873*, p. 8 (Victoria, 1874). A Canadian statement shows that during the year ended June 30, 1888, British Columbia imported from the United States 593 head of cattle worth \$17,893. *Tables of the Trade and Navigation of the Dominion of Canada for the Fiscal Year Ended 30th June, 1888*, 3-4 (Ottawa, 1889). British Columbia imports during the ensuing fiscal year included 551 head of American cattle worth \$17,907. *Ibid.*, 1889, p. 4 (Ottawa, 1889). During the fiscal year ended June 30, 1890, British Columbia imported from the United States 415 head of cattle worth \$18,867. *Ibid.*, 1890, p. 4 (Ottawa, 1891).

⁶⁹ *Commerce and Navigation of the United States, 1873-1890.*

Exports of Cattle From the Puget Sound Customs District⁶⁹ Export of Cattle From the United States to British Columbia⁶⁹

<i>Year ending June 30</i>	<i>Number</i>	<i>Value</i>	<i>Year ending June 30</i>	<i>Number</i>	<i>Value</i>
1877.....	611	11,931	1877.....	617	12,111
1878.....	543	9,675	1878.....	556	10,455
1879.....	176	3,573	1879.....	176	3,573
1880.....	57	1,434	1880.....	57	1,434
1881.....	3	110	1881.....	3	110
1882.....	23	1,018	1882.....	23	1,018
1883.....	1	50	1883.....	5	435
1884.....	248	10,573	1884.....	254	10,998
1885.....	394	15,532	1885.....	396	15,732
1886.....	308	10,508	1886.....	311	11,184
1887.....	1,235	37,790	1887.....	1,238	38,015
1888.....	567	19,475	1888.....	571	19,925
1889.....	635	20,830	1889.....	635	20,830
1890.....	342	14,909	1890.....	343	15,009

After 1874 the exports of American cattle to British Columbia declined until the vanishing point was almost reached in the years 1881-1883. The rapid decay of this trade is not easy to explain. The cattle industry in British Columbia may have been growing adequate to local needs, and there may have been increased importations of fresh and of preserved beef into the province. The logical area from which to import such meats was, of course, the Pacific coast of the United States. Yet between the years 1874 and 1885 the exports of beef in all forms from the United States to British Columbia were not sufficiently large to have destroyed the Puget Sound cattle trade.⁷⁰ Only by an examination of the detailed lists of British Columbia imports in those years could it be ascertained whether or not the province obtained meat in considerable quantities from ports other than American. The completion of the Canadian Pacific Railroad in 1886 completely changed the economic situation of British Columbia.

Though the decline in the exports of American cattle to British Columbia came at an inopportune time for the stockmen of the Oregon Country, the continuance of this trade at its highest level would not have prevented the depression which prevailed in the cattle industry in the Pacific Northwest from the close of 1872

⁷⁰ *Commerce and Navigation of the United States*, for the years indicated.

to the spring or summer of 1881. Since 1858 important changes had taken place. During the 1860's, and for some years thereafter, cattle by thousands had been shipped up the Columbia River or had been driven across the Cascade Mountains to stock ranges in eastern Oregon and in eastern Washington. By the early 1870's western Oregon had ceased to be the cattle reservoir of the Pacific Northwest. East of the Cascades a new cattle country had developed, the output of whose ranges the markets of the Pacific Northwest were incapable of absorbing. From this region came much of the beef which supplied the markets of the Puget Sound area during the 1870's and 1880's. Instead of driving bands from western Oregon, dealers now brought cattle from the Yakima Valley and the Columbia Plateau through Snoqualmie Pass or by way of the Columbia River to the Puget Sound Basin. From the middle 1870's onward, the Victoria market was only an unimportant extension of the American cattle markets on Puget Sound. Highly important in earlier years, the Puget Sound cattle trade had now become of little consequence to an industry spread over vast areas of the Pacific Northwest. During the late 1870's and the early 1880's the cattlemen of the Oregon country turned to regions east of the Rocky Mountains to find markets for their surplus stock.⁷¹

⁷¹ This paragraph has been summarized from parts of chapters 3-5 of my unpublished doctoral dissertation, *The Range-Cattle Industry in the Oregon Country to 1890* (Harvard University). See my article, "The Cattle Trade From the Far Northwest to Montana," *Agr. Hist.*, 6: 69-83 (April, 1932).

ELLEN CHURCHILL SEMPLE

Miss Ellen Churchill Semple (1863–May 8, 1932) was America's foremost anthropogeographer. She was a graduate of Vassar College (B.A., 1882; A.M., 1891) and studied under Friedrich Ratzel at the University of Leipzig during 1891–92 and 1895.¹ In addition to research and writing Miss Semple was widely known as a teacher and lecturer. She taught at the University of Chicago from 1906 to 1920 and at Clark University from 1921 to 1931. In 1912 and again in 1922 she lectured at the University of Oxford.

In 1914 she received the Cullum Geographical Medal from the American Geographical Society "in recognition of her distinguished contributions to the science of anthropogeography." In 1921 she was honored as president of the Association of American Geographers. More recently she was awarded the Helen Culver Gold Medal "for distinguished leadership and eminent achievement in geography" by the Geographic Society of Chicago.

Miss Semple's first book, *American History and Its Geographic Conditions* (Boston and New York, Houghton, Mifflin & Co., 1903) is still a standard reference for students of American history and geography.² Her second work, *Influence of Geographic Environment* (New York, Henry Holt & Co., 1911) is the final authority on the subject in the English language.³

¹ Similar biographical sketches and estimates may be found in *Who's Who in America* (1930–1931) 16: 1984; *American Men of Science*, 876 (4th ed. New York, 1927); (by Wallace Atwood) *Science*, 75: 657 (June 24, 1932); (by R. H. Whitbeck) *Geographical Review*, 22: 500–501 (July, 1932); *Scottish Geographical Magazine*, 48: 357–358 (Nov. 15, 1932); *Publishers' Weekly*, 121: 2419 (June 18, 1932).

² Reviewed in the *Nation*, 77: 534–535 (Dec. 31, 1903); by L. M. Keasbey in *Political Science Quarterly*, 19: 501–502 (September, 1904). The revised edition (New York, Houghton Mifflin Co., 1933) is reviewed by W. Elmer Ekblaw in *Economic Geography*, 9: 322–323 (July, 1933).

³ Review by O. G. Libby in *American Historical Review*, 17: 355–357 (January, 1912); by A. G. Keller in *Yale Review*, 1: 331–334 (January, 1912).

Her most recent volume, *The Geography of the Mediterranean Region* (New York, Henry Holt & Co., 1931) was heroically completed during the last months of her life, and is the result of twenty years of intensive research and numerous journeys to the Mediterranean basin for field work.⁴ It is a comprehensive and mature analysis of the most significant geographical region in all the continents. At the beginning of the first chapter we are reminded that "All the world is heir of the Mediterranean. . . . Much that is finest in modern civilization traces back to seeds of culture matured in the circle of the Mediterranean lands and transplanted thence to other countries, whence they have been disseminated over the world. . . . This Mediterranean Sea with its bordering lands has been a melting-pot for the peoples and civilizations which have seeped into it from its continental hinterlands . . . and it has been also a distributing center for its composite cultural achievements. This double rôle in history is an outgrowth of its geographical location and its relation to the neighboring continents. . . . The intercontinental location of the Mediterranean Sea afforded the fundamental geographic conditions for a cosmopolitan culture; but further refinements and differentiations ensued as a response to conditions within the circle of the Mediterranean lands." Several of the chapters appeared from time to time as articles in periodicals, but it remained for the completed work to reveal how greatly scholars were to be indebted to her.

Students of agricultural history will ever be grateful for the eight chapters on Vegetation and Agriculture. Their contents are indicated by the titles: Ancient Mediterranean Forests and the Lumber Trade; Pasture and Stock-Raising; Grain Production

⁴ More detailed evaluations of this recent work are as follows: by Elmer Ekblaw in *Economic Geography*, 8: 104-105 (January, 1932); by Everett E. Edwards in *Agricultural Economics Literature*, 6: 130 (March, 1932), and in the *Journal of Farm Economics*, 14: 713-714 (October, 1932); by Derwent Whittlesey in the *Geographical Review*, 22: 336-337 (April, 1932); by M. M. Knight in the *American Historical Review*, 37: 787-788 (July, 1932); by Raymond Mortimer in the *New Statesman and Nation*, 4: 237-238 (Aug. 27, 1932); by Sterling Tracy in the *Historical Outlook*, 24: 118 (February, 1933); and by C. M. in the *Scottish Geographical Magazine*, 49: 111-112 (Mar. 15, 1933).

and the Grain Trade; Sown and Planted Crops; Manuring and Seed Selection; Irrigation and Reclamation in the Ancient Mediterranean Region; Ancient Mediterranean Pleasure Gardens; Climatic Influences in Ancient Mediterranean Religion; Gods of Rainfall and Tillage; and Climatic Factors in Settlement and Water Supply. On two occasions (Columbus, Ohio, Dec. 28, 1923; and Washington, D. C., Dec. 28, 1927) Miss Sample participated in programs of the Agricultural History Society. The chapters on Sown and Planted Crops and Manuring and Seed Selection appeared in *Agricultural History*, 2:61-98, 129-156 (1928).

The clarity of style and the enrichment by classical allusion exemplified in her books may well be the model for others. "Her charming personality and keen intellect made her the center of any group of which she formed a part, and in the councils of American geographers she was one of the most highly esteemed."⁵ Her works on anthropogeography are lasting contributions to geography and history in the United States.—*Everett E. Edwards*

NEWS NOTES AND COMMENTS

SIXTEENTH ANNUAL MEETING OF THE AGRICULTURAL HISTORY SOCIETY

Forty-two were present at the dinner and sixty at the sixteenth annual business meeting and program of the Agricultural History Society, held at the Cosmos Club in Washington, D. C. on April 18, 1933. The Society's vice-president, Dr. L. C. Gray, presided.

The nominating committee, consisting of E. Merton Coulter (chairman), Earle D. Ross, Carl R. Woodward, J. Clyde Marquis, and O. E. Baker, having mailed ballots to the members of the Society reported the following elected for the year 1933-34: for president, L. B. Schmidt, Iowa State College; for vice-president, Ralph H. Gabriel, Yale University; for secretary-treasurer, O. C. Stine, U. S. Department of Agriculture; for elective members of the executive committee, Claribel R. Barnett, U. S. Department of Agriculture, and Percy W. Bidwell, University of Buffalo.

⁵ R. H. Whitbeck, *op. cit.*

The secretary-treasurer, O. C. Stine reported nineteen new members and thirty-seven resignations since the last annual meeting. The membership on April 1, 1933 was three hundred and three. The auditing committee, consisting of Marjorie F. Warner (chairman), Lois B. Payson, and Edmund C. Burnett, reported that they had audited and approved the report of the secretary-treasurer covering the period April 1, 1932 to April 1, 1933.

As part of the literary program Knowles A. Ryerson, principal horticulturist in charge, division of foreign plant introduction of the Bureau of Plant Industry, U. S. Department of Agriculture, presented the interesting discussion of "The History and Significance of the Foreign Plant Introduction Work of the United States Department of Agriculture," printed elsewhere in this number. Victor S. Clark, consultant in economics at the Library of Congress, and Thomas P. Martin, assistant chief of the division of manuscripts of the Library of Congress, also spoke, the latter on "The National Archives Building" and his remarks appear as an article in the *Historical Outlook*, 24:177-179 (April, 1933). Dr. Clark discussed the historical work of the Carnegie Institution of Washington, giving particular attention to Dr. L. C. Gray's *History of Agriculture in Southern United States to 1860*.

SECRETARY-TREASURER'S REPORT

The following is the financial report of the secretary-treasurer for the year ending April 1, 1933:

Cash balance, April 1, 1932.....	\$135.54
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Receipts, April 1, 1932-April 1, 1933

Membership fees.....	\$564.00
Sale of back numbers.....	102.00
Total receipts.....	666.00
Total to be accounted for.....	\$801.54

Disbursements

Printing AGRICULTURAL HISTORY for April, July, and October, 1932.....	\$567.50
Mimeographing circular letters, postcard notices, and programs.....	15.30
Postage and shipping charges.....	47.66
Total disbursements.....	630.46
Total cash on hand, April 1, 1933.....	\$171.08

MISSISSIPPI VALLEY HISTORICAL ASSOCIATION ANNUAL MEETING

The Mississippi Valley Historical Association held its twenty-sixth annual meeting at Chicago on April 13, 14, and 15, 1933, together with the Teachers' Section of the Association and the Conference on the Teaching of the Social Sciences held under the auspices of Northwestern University and the Illinois State Historical Society and the Chicago Historical Society. Included among the papers and addresses were the following: "The Third Party Tradition in American Politics," the presidential address of John D. Hicks of the University of Wisconsin; "The Slave Trade Between Kentucky and the Cotton Kingdom," by T. D. Clark of the University of Kentucky; "Tennessee Politics and the Agrarian Revolt, 1886-1896," by Daniel M. Robison of State Teachers College of Memphis, Tennessee; "The Authorship of the Gold Plank in 1896," by Marian Silveus of Pittsburgh, Pennsylvania.

GREAT PLAINS HISTORY COLLECTION

The Great Plains History Collection, recently established at the University of Texas at the suggestion of Professor W. P. Webb, noted authority on the subject, is of considerable interest and significance to students of agricultural history. While it is planned to include materials on the many phases of western life, including transportation, mining, dry farming, and irrigation, the first acquisitions pertain largely to ranching in the Southwest. Manuscript materials, diaries, account books, business papers, and letters, totaling more than 130,000 documents constitute the nucleus of this collection. Additional details are given in the *Southwestern Historical Quarterly*, 37:73-74 (July, 1933), and by J. E. H[aley] in the *American Historical Review*, 38:847-848 (July, 1933).

BAKER LIBRARY BUSINESS MANUSCRIPTS

Reference has already been made in *Agricultural History*, 1:18 (January, 1927), to the collection of source material for students of economic and business history which has been in the process of accumulation for the past fifteen years at the Harvard Grad-

uate School of Business Administration. The collection consists of the business papers of more than five hundred firms and organizations and involves numerous fields of business enterprise. The groups of records vary in size, ranging from one to several hundred volumes for a single concern. The papers include administrative records, account books of various kinds, and correspondence. The *List of Business Manuscripts in Baker Library* (Boston, Mass., Harvard Univ. Grad. School of Business Administration, Library, 1932. 112 p.), compiled by Margaret Ronzone Cusick, is a valuable guide for research students. The manuscript material on agriculture and livestock in Baker Library is listed on pages 3-5.

PERSONAL

Professor John D. Hicks of the University of Wisconsin spoke on "Third Party Tradition in American Politics," Professor Earle D. Ross of Iowa State College, on "The 'Father' of the Land Grant College," and Professor V. Alton Moody of Iowa State College on "Recent European Agrarian Reforms," at the annual meeting of the Iowa Association of Economists and Sociologists, the Iowa Political Science Association, and the Iowa Historical Association, at Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa, March 24, and 25, 1933.

Dr. Rodney H. True, one of the founders of the Agricultural History Society and twice its president (1919-20, 1929-30), has recently assumed the directorship of the Morris Arboretum in Chestnut Hill, Philadelphia. Sixty years ago, John Thompson Morris, inheritor of vast wealth from the iron industry, began the collection of rare and exotic trees and shrubs at his country place of Compton, which covers about ninety acres. Later as he continued his botanic adventures in many lands he acquired the seventy-acre farm of Bloomfield. The entire property has now passed to the University of Pennsylvania as the Morris Arboretum. See the illustrated article by L. H. Robbins, "El Dorado of Trees and Shrubs," *New York Times Magazine*, May 28, 1933, p. 10-11, 18. Also H. L. H., "Morris Arboretum and the University of Pennsylvania," *Science*, 76:459 (Nov. 18, 1932);

"Morris Arboretum of the University of Pennsylvania," *Science*, 77:184-185, 404-405 (Feb. 17, April 28, 1933).

A bust of Cyrus H. McCormick, inventor of the reaping machine, was unveiled in the Hall of Fame at Richmond, Va., on April 18. Dr. Edward Pendleton Gaines, president of Washington and Lee University, gave the dedication address.

Professor E. Merton Coulter of the University of Georgia, president of the Agricultural History Society during 1928-29, has received a grant-in-aid from the Social Science Research Council for a study of the planter civilization of coastal Georgia.

Professor Paul W. Gates of Bucknell University, a contributor to *Agricultural History* (see *ante*, 5:57-76) has been awarded a fellowship by the Social Science Research Council for a study of the operation of the Federal land system.

Professor L. J. Ragatz of George Washington University, a contributor to *Agricultural History* (see *ante*, 5:7-24), has received an award from the Guggenheim Foundation for a study of the social and economic structure of the French Antilles during the seventeenth and eighteenth centuries.

Mr. Joseph C. Robert received the degree of doctor of philosophy in history from Duke University at the June 1933 commencement, his thesis topic being "Tobacco Culture in Virginia and North Carolina before 1860." The study includes production, marketing and manufacturing of the leaf.

Mr. Wayne C. Neeley of Columbia University has completed an extensive manuscript on the development and social significance of agricultural fairs in the United States. It is being prepared under the direction of Professor Harry J. Carman for publication as one of Columbia University's History of American Agriculture series.

Dr. I. G. Davis, professor of agricultural economics at Connecticut Agricultural College, Storrs, Connecticut, has completed a detailed study of "Southern New England Agriculture and Rural Life, 1840-1870." Two of the chapters in the American Geographical Society's Special Publication 16, *New England's Prospect: 1933*, are by Dr. Davis and pertain to this subject.

ARTICLES AND BOOKS ON THE AGRICULTURE OF THE BRITISH ISLES

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